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# INTERNATIONAL JOURNAL OF ACADEMIC RESEARCH IN PROGRESSIVE EDUCATION & DEVELOPMENT



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## Affective Learning and Cognitive Skills Improvement: Experience of Selected Schools in Arusha, Tanzania

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### Abstract

This study investigated on the place of affective learning on cognitive learning improvement in two schools located in Arusha, Tanzania. The study established that there is a great need to balance the assessment of learning outcomes in learners by including all the domains associated with behavioral changes instead of assessing the cognitive achievement in the learner alone. The study has also found out that most teachers apply affective knowledge through experience but have little knowledge whether affective learning has any significant contribution towards improving cognitive skills. To reach the conclusion 41 teachers from two schools were involved in the study through questionnaire instrument. The study employed descriptive and inferential statistics (t-test and ANOVA) by the aid of SPSS. The overall results have shown that regardless of gender and teaching experience, teachers have a similar understanding of the concept in many dimensions.

**Keywords:** Affective Knowledge, Cognitive Skills, Integration, Bloom's Taxonomy, Curriculum Design, Instructional Design

### Introduction

In 1956 Bloom and his associates came up with a taxonomy which could be used to classify cognitive learning outcomes in conjunction with the use of affective and psychomotor dimensions. The version was improved by the study done by Krathwohl & Anderson, (2000) to qualify the affective domain as one of the most important dimensions in learning. Old as it may be, the theory has been so useful in classroom teaching and learning interactions. However, for the last two decades, there has been a paradigm shift where most school curriculums reflect scantily or not at all on the integration of affective domain in their undertakings. Sowell (2005)

adds: "as important as affective learning may be, it is included infrequently in curricular" (P. 74). The reasons for this could be because national priorities have also influenced many schools to concentrate more on grade attainment. Or the fear of indoctrination through persuasion and coercion, skepticism about grading learners on affective outcomes, and the perception that affective domain objectives are private matters (Krathwohl et al., 1964).

The affective dimensions of learning are feelings, emotions, and self-esteem. Caine and Caine (1991) note: "We do not simply learn. What we learn is influenced and organized by emotions and mind sets based on expectancy, personal biases and prejudices, degree of self-esteem, and the need for social interaction. ... [Emotions] operate on many levels, somewhat like the weather. They are ongoing, and the emotional impact of any lesson or life experience may continue to reverberate long after the specific event." (p. 82). According to Rosenfield (1988), emotions have an important connection to memory; they help to store information and also trigger its recall. Caine and Caine (1991) add that, "the emotional depth and range that students have...affect their actual capacity to grasp ideas and procedures. Similarly, content that is emotionally sterile is made more difficult to understand" (p. 58). To teach someone any subject adequately, the subject must be embedded in all the elements that give it meaning. People must have a way to relate to the subject in terms of what is personally important, and this means acknowledging both the emotional impact and their deeply held needs and drives. Our emotions are integral to learning. Combs (1982) notes that when we ignore the emotional components of any subject we teach, we actually deprive students of meaningfulness.

Self-esteem also is related to the affective domain. How students feel about themselves as learners and how schools help students develop self-confidence are important components in achievement. Caine and Caine (1991) note the importance of the school's "emotional climate" in affecting student learning; "teachers need to understand that students' feelings and attitudes will be involved and will determine future learning. Because it is impossible to isolate the cognitive from the affective domain, the emotional climate in the school and classroom must be monitored on a consistent basis, using effective communication strategies and allowing for student and teacher reflection and metacognitive processes" (p. 82). In general, the entire environment needs to be supportive and marked by mutual respect and acceptance both within and beyond the classroom. When students feel good about themselves as learners, they are willing to take the risks and focus the attention necessary for further learning. The work of Krathwohl & Anderson (2000) explains further that students are more willing to tackle tasks if they believe they can be successful. "When students feel defeated or unable to learn in schools, the problems of teaching them become very difficult. That is why many reading programs insist on early intervention before students develop negative feelings about their own abilities and about their willingness to participate and take risks in school learning" (As cited in Sowell, 2005, p. 74).

On the same note Sowell (2005) examines that affective domain involves incorporating the new values within the person's existing values and making them part of that individual's philosophy. Students' attitudes influence how they conduct themselves in class discussion, social interaction,

positive preferences for activities, and citizenship. Such values ought to be cultivated in an encouraging learning environment which eventually promotes students' cognition faculties. "Because schools are social organizations, they are places where children and youth develop attitudes' (p.75). Ignoring this fact of integrating affective content in curriculum and instructional designs will lead students into becoming book worms who cannot translate life in its potential reality. Ornstein and Hunkins (2009) insist that, "educational aims should address the intellectual (or cognitive), the social-personal (or affective), and the productive." (p. 224).

Affective learning is often contrasted with cognitive learning, which is associated with synthesis, evaluation, and comprehension of knowledge or information. However it has gained momentum as a topic of continuing study and discussion in the literature and therefore provides a test bed of measurement in and of itself, but also for new assessment tools like student response systems. How confident teachers are in carrying out the agenda of molding young generation through the active application of affective knowledge is a matter of dialogue. On one hand, schools compete to produce high scorers academically but moral decay on the other hand, of 'same so called high achievers' is on the rise. Unless measures are taken to address the importance of going back to the basics of incorporating Bloom's Taxonomy of learning in the curriculum machinery, our schools will continue to produce 'brilliant fools' whose manners and sense of professionalism are grossly questionable by the society.

### **Statement of the Problem**

In order to practice justice following the Bloom's taxonomy of learning, a student is expected to be assessed on three dimensions namely; the cognitive, affective and psychomotor domains. Although cognitive domain features broadly in summative testing, affective and psychomotor dimensions have an enormous contribution towards better learning outcomes. The practice of dwelling too much on cognitive assessment leaves a vacuum in students' character excellence. As a result, violence and all sorts of vices in schools are rampant nowadays and it appears schools' leaderships have failed to address the root causes of such mannerism. Combs (1982) makes a strong case for effective education by stating that unless the affective dimensions of learning are considered, education in the true sense of the word is unlikely. This study therefore, examines the awareness and application of affective dimensions during teaching and learning transaction in two selected secondary schools.

### **Research Questions**

The study was guided by the following questions:

What is the level of Teachers awareness, competence, and application of affective knowledge?

What is the level of teachers' competence of affective knowledge in terms of teachers' qualification?

Is there significant difference in teachers' application of affective knowledge in terms of teaching experience?

### **Significance of the Study**

The findings and suggested solutions of this study will help revive a long forgotten and yet important component (affective dimension) in teaching and learning interactions. Schools are places where children are prepared to become good citizens and knowledgeable individuals whose expertise become valuable in the society. In order to maintain a generation of that nature, this study brings home the panacea to challenge the current cognitive grading system whose impact on the society is alarming. The study is expected to bring major changes in curriculum development and instructional design as one of the core causes of the problem. The study has developed a workable model which can be used to integrate the application of Bloom's Taxonomy of learning effectively. Beneficiaries of this study will include teachers, students, parents and the entire society in the sense that everyone admires a violent free and friendly environment.

### **Justification of the Study**

Several studies as cited in this paper have shown the repercussion of neglecting affective dimension in our curriculum without suggesting tangible solutions to rescue the situation. This study does not only uncover what is going on the ground in schools but also proposes sound solutions to help fix the situation that is getting out of hand speedily. Our schools ought to be places where acceptable knowledge and behavior become the norm for generations to emulate.

### **Theoretical Framework**

The premise of this study dwells largely on the Social-cultural (Vygotsky) and social learning (Rotter) theories. Constructivism theory pioneered by Piaget and Vygotsky which advocates that learners construct knowledge and brings their personal experiences into the classroom, and such experiences have a tremendous impact on their views of how the world works (Glatthorn, Boschee, & Whitehead, 2009). In this theory an emphasis is put on three dimensions namely; social participation, authentic tasks in which learning is embedded and tools to support learning. Students come to a learning situation with a variety of knowledge that exists within the student and is developed as individuals interact with their peers, teachers, and the environment. Alternatively, social-learning theory (Rotter, 1954) postulates that, "the theory is social in nature because it stresses the fact that the major basic modes of behaving are learned in social situations and are inextricably fused with needs requiring for their satisfaction the mediation of other person" (p. 84). It is through these theoretical frame works, affective knowledge can well be practiced by appreciating oneself values while adapting and accommodating different views of others.

### **Conceptual Framework**

The study is visualized by the concept that once the affective content is incorporated from the inception of curriculum and instructional designs, desired learning behavior becomes obvious. This framework advocates that unless affective knowledge is inculcated in the curriculum formation and feature in instructional strategies little desired learning behavior becomes a reality.

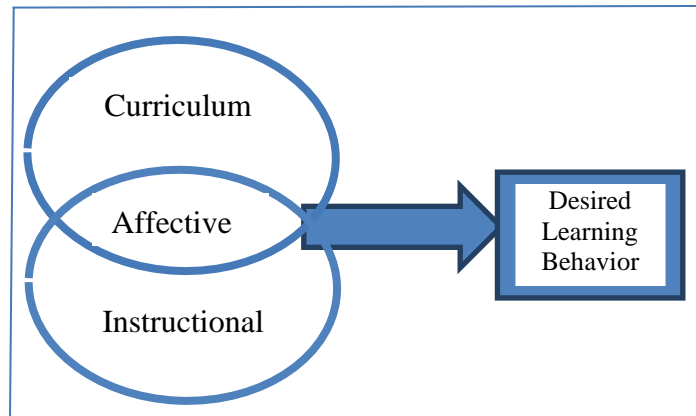


Fig 1. Curriculum machinery for affective learning (Kuboja, 2015).

### Scope of the Study

Evaluating students' achievement is not an easy practice owing to different factors that underpin the process. There are obviously several issues in evaluating students that need our intervention; some of which could include: how do teachers harmonize the five levels of cognitive domain (knowledge, comprehension, application, analysis, synthesis and evaluation) in teaching and assessing students learning behaviors and the perception of teachers and students towards formative and summative assessments (Rowntree, 1987 & Sadler, 1989). This study is designated to explore the interrelationships that exist between two faculties of learning namely; cognitive and affective dimensions and also to see the challenges facing teachers in integrating them in teaching and learning transaction in order to better the evaluation processes. In order to manage the parameters of this study, the researcher used a sample of two faith based school in Arusha Municipality which were used as a replica to define the magnitude of the problem.

### Review of Related Literature and Studies

One way of considering knowledge in school curricula is to identify the learning domains represented as cognitive, affective, and psychomotor (Sowell, 1996). Domains are areas of learning that share a common characteristic in shaping a learner becoming more useful in the society. The cognitive domain is associated with intellectual functions; the affective domain with emotions, attitudes, and values; and the psychomotor domain with physical activities (Bloom, 1956). Domains and taxonomies of learning, known for half a century to the education community, continue as major ways of classifying learning outcomes. Unfortunately, the case has been contrary to reality as Prince (1998) observes that curriculum workers have shifted their thinking about affective learning and have given it less priority it deserves to help achieve cognitive skills. He continues observing that though affective and psychomotor taxonomies are used less frequently they continue to provide valuable information about attitudes and motor skills as learning outcome.

Lickona (1993), a developmental psychologist suggested that the crisis in the nation's youth culture was due to factors such as a decline of family and disturbing trends in a mass media programs. He called for fostering of core values, "the fourth and fifth R's, respect and



responsibility. He continues to argue that schools should inaugurate programs to develop character by making use of all aspects of students' school experience. Schools must teach good moral conduct if they wish it to be learnt by students. Insisting on core values he maintained that, "they are those that promote human rights and affirm human dignity." (p. 8).

Assessment is not limited to what people know and can do; it also includes how they learn, how they feel about themselves, how motivated they are, and what they like and don't like (O'Donnell et al., 2009). "Issues related to an individual's attitudes, opinions, dispositions and feelings are usually labeled affective learning" (p. 485). A further comment is observed by Hammer (1991) that students belief and attitudes about the subject matter affect their orientation to learning. When students co-construct knowledge while sharing on a task, cognitive process interacts with motivation and emotional processes at both the individual and the group level. Important influences between motivation and cognition can be observed in both directions: students' individual motivation influences how deeply they are willing to engage in the joint task. Individual task commitment is also affected by volitional regulation at the group level. Despite these important interactions, studies of collaborative learning often focus on either cognitive or emotional-affective aspects. Baher, Andriessen, and Jarvela (2013) observe that, "even worse, the role of motivation and emotion in knowledge co-construction has often been neglected in favor of cognitive aspect" (p. 139).

Educators are cognizant of the importance of the affective domain of learning behavior; however, there is no general consensus about whether the cognitive or affective domains should be emphasized first in any particular instructional set of learning activities and assignments. Some researchers suggest that the cognitive should be the first focus of instruction as a prerequisite for developing positive affective attitudes and predispositions for the subject matter (Barrell, 1995). Others on the other hand have found that an initial instructional focus on generating interests for a particular topic will better facilitate increase on cognitive learning through affective contextualization (Zimbardo, & Leippe, 1991). For example, many service learning programs are designed to generate students' interest in particular social issues by exposing them in community to practical real-life experience, and then presenting the theoretical foundations and statistical data attached to such experience. With all these tugs of war about what should come first or last does not matter at this point but at least a paradigm shift towards affective learning does seem to be on the top agenda. As Zimbardo and Leippe observe;

"In any case, educators do generally agree that the most effective instructional designs for the promotion of affective domain learning behaviors will be those that engage students' emotions at all levels of the curricula as well as providing continuous positive reinforcement for the learner through multiple venues to express targeted attitude and values" (p.176).

With the consensus agreement among researchers over affective learning cannot be overemphasized. Looking into what teachers do on the ground may not necessary bring tangible results unless curriculum developers initiate the move on how to embed affective knowledge in

curriculum and instructional designs as Eshun (2003) puts clearly that there is a need to plan and conduct effective professional development initiatives.

### **The Necessity of Affective Learning**

A study conducted by Bohlin (1998) about the use of the affective learning found that teachers plan instruction that focuses on the affective domain usually in the categories of motivation, attitudes, anxiety, and values. He admits, however, that teachers in his study apparently had insufficient backgrounds in dealing with affective learning to make clear judgments about their effectiveness in helping students meet objectives in the affective domain. This study corresponds that of the Ghanaian experience by Eshun (2003) which revealed that teachers set questions that enhance the development of students' conceptual understanding or problem-solving skills focusing on affective learning. However, documentary analysis of their end of term examination papers revealed otherwise. There were discrepancies between what teachers said they assessed and what they actually assessed. It was recommended that there is a need to plan and conduct effective professional development initiatives, including both pre-and in-service training, to transform teachers' epistemologies in line with the current theories of teaching, learning and assessment in social studies.

Conducting a research entitled 'learning with invisible others' Russo and Benson (2005) came out with facts that show the importance of affective learning where students feel good to learn in the presence of others. They discovered that, affective learning represents the attitudes students develop about the course, the topic, and the instructor. Although research demonstrates a consistent positive relationship of teacher nonverbal immediacy and student affective learning, the relationship between verbal immediacy and affective learning has been studied less frequently. Teacher immediacy in face-to-face classrooms has been shown across a number of studies to be positively correlated with affective learning (Kelly & Gorham, 1988; Sanders & Wiseman, 1990). Freitas, Myers and Avtgis (1998) further reported that teacher use of nonverbal and verbal immediacy behaviors were strongly correlated with student affective learning and, through it, with students' perceived cognitive learning. Addressing the frustrations experienced by online learners, instructors, and their institutions, LaRose and Whitten (2000) note the importance of connection in the learning environment in arguing that many Web courses fail to address the leading concern of learners — lack of interaction with the instructor and fellow students. They further argue that learner motivation may suffer in Web courses because of a lack of teacher immediacy (LaRose & Whitten, 2000).

Research has shown that in traditional classrooms, the immediacy of the teacher is an important correlate of affective learning and connection between student and teacher (Ellis, 2000). Although research has indicated that distant students expected less nonverbal immediacy from telecourse teachers than on-site students expected (Witt & Wheelless, 1999), teacher immediacy (Gorham, 1988; Freitas, Myers & Avtgis, 1998; Sanders & Wiseman, 1990) and intimacy (Ellis, 2000) remain important correlates of student satisfaction and affective learning.



### **A Paradigm Shift toward Affective Education**

Power and Nuzzi (2008) report that in 1994 a group of scholars and educators from twelve European countries met at the university of Warwick, United Kingdom to discuss the affective dimension of education. It was affirmed that affective education was a prominent goal in these countries and that a significant relationship obtained between affective and intellectual education objectives. One outcome of the meeting was to establish the European Affective Education Network (EAEN). A second outcome was agreed to use the term 'affective education' to describe the affective dimension. Although affective education is not commonly used in most countries, it was a term understood in all. The EAEN produced a working definition of affective education. The term refers to the significant dimension of educational process concerned with the feelings, beliefs, attitudes, and emotions of students, their interpersonal relationships, and their social skills. It involves a direct concern for the moral, spiritual, and values development of students, teachers and parents. The EAEN argued that affective education operates on at least three levels and has objectives involving different time scales. The different levels included: (1) attention directed to individual students; their self-esteem, emotional literacy, and study skills. (2) attention to the nature and quality of interaction within groups and (3) attention for the quality of the climate and ethos of the school itself, its care and concern in relation to students' welfare and mental health.

According to Mayor and Cobb (2000), the affective education movement in the United States has been supplanted by socio-economical learning and character education. It should be noted that both of these would be seen as manifestations of affective education. They argue that affective education is of central importance in education, though this is not always recognized. It is important as an approach in itself but also as a dimension of all activities in schools in the curriculum and elsewhere. They insist that affective education means that the voices of children and young people in schools should be heard and responded to; they should be involved in identifying their needs, both emotional and academic. They should be encouraged to understand their emotions and those of others as well as how these relate to one another. This is a kind of education that is needed to our children today.

### **Methodology**

The study used descriptive research approach. Research questions and hypotheses guided the study; questionnaire was the major instrument from which information was obtained. The research was conducted in Arusha municipality where two faith based schools were selected for the research. The reason to choose faith based schools is because they were believed to practice affective knowledge as compared to public schools. A total population of 41 teachers was involved in responding to the questionnaires.

### **Questionnaires**

Four-interval scaled items appeared in the questionnaires using the improved Likert scale at 4-points in the following order:

Strongly disagree    2. Disagree    3. Agree    4. Strongly Agree.

The researcher coded the information and quantified it into descriptive units using the Statistical Package for Social Sciences (SPSS).

#### Validity and Reliability of Instruments

To obtain content-related evidence of validity, the researcher, through his research experiences and the inputs from research experts enriched the content and framed the questionnaires to suit the objectives of the study. For reliability's sake, the researcher employed Cronbach's alpha to determine the internal-consistency of the questionnaire items. One school which was not involved in the study was piloted to test reliability of the study. The analysis was done using Statistical Package for Social Sciences (SPSS), and a Cronbach's alpha coefficient of .786 was established signifying that the results obtained were reliable.

#### Statistical Treatment of Data

The information collected from the field through the questionnaire was analyzed using the Statistical Package for Social Sciences. Both descriptive and inferential statistics were employed in analyzing data. Descriptive statistics was used to analyze demographic information of respondents while T-test and Analysis of Variance (ANOVA) was used to analyze research questions that sought to determine differences among variables in the study.

#### Results and Discussion

The study was guided by three research questions which were designed to test significant differences of variables in terms of awareness, competence and application of affective knowledge in improving cognitive skills. Mean score of respondents were ranged and interpreted as strongly disagree (1.0 -1.49), Disagree (1.50-2.49), Agree (2.50-3.49) and strongly agree (3.50-4.00). All tables pertaining to the analysis of different variables are indicated at the end of this study.

What is the level of Teachers awareness, competence and application of affective knowledge in terms of teaching experience?

This question sought to find out general knowledge of teachers about the use of affective knowledge in teaching and learning interaction in classroom situation. Teachers were categorized according to their teaching experience in the field and therefore the question intended to find out if experience of teachers had any contribution in understanding the usefulness of affective knowledge for the improvement of cognitive skills. Evidence from table 1, indicates that the general mean score of teachers' awareness of affective knowledge is at 2.89, competence (3.28) and application (3.05). The explanation of descriptive statistics on teachers' awareness, competence and application seem to show that teachers generally agree to be well versed with affective knowledge. It also explains further that teachers' awareness of affective learning to improve cognitive skills is not clearly comprehended as compared to competence and application. This may mean that unless teachers understand better how affective knowledge works to improve other faculties of learning, education becomes irrelevant.

Is there significant difference in teachers' competence of affective knowledge categorized according to teachers' qualification?

This question called for ANOVA test in order to test whether competence of teachers in affective knowledge depended on teachers' qualification. Thus, a null-hypothesis: there is no significant difference between teachers' competence categorized according to qualification was established. Results in table 2 indicate the sig. at .245 which is greater than the p-value and therefore leads us to accept the null-hypothesis. The interpretations of these results prove that teacher's competence on affective knowledge does not depend on teachers' qualification. The difference will be noted if all teachers regardless of their qualification had equal groomed chance in affective learning.

Is there significant difference in teachers' application of affective knowledge categorized according to teaching experience?

This question sought to address the simplicity/complexity of applying affective knowledge to students. To understand if teaching experience makes any significant difference in applying this knowledge was the matter of this inquiry. The question however, threw light in testing the following two null-hypotheses.

Ho= There is no significant difference in teachers' awareness of affective knowledge categorized according to gender.

To obtain results from this inquiry, an independent t-test was run to establish the fact on the ground. Results in table 3 shows the group mean scores for male and female to be 2.90 and 2.83 respectively. Though females have shown to lag behind their counterpart males, the difference is very minimal. While in table 4 the Sig. is .582 which is greater than .05 (alpha). Therefore, in this case gender does not make any difference in the awareness of affective knowledge. All teachers alike have similar understanding of the idea regardless of their gender. A further explanation may mean that if affective knowledge is sensitized to all teachers the results will equally be achieved without bias.

Ho= There is no significant difference in teachers' application of affective knowledge categorized according to teaching experience

To obtain this information the Analysis of Variance (ANOVA) was run to establish this inquiry. On one hand, statistical descriptive in Table 5 shows that most teachers in the experience ranging from 1-15 years of teaching indicate that they agree in applying affective knowledge at mean score of above 3.00 while those from 15 and above years of experience lags a little behind their counterparts at mean score of 2.94). The reason for the difference could be that long service teachers lack the current knowledge which goes hand in hand with the application of technology as compared to their counterparts who are technologically savvy. On the other hand, Table 6 provides results which indicate the sig. of .634 which is greater than the alpha. 0.05. Hence, accepts the null-hypothesis that there is no significant difference in teacher's application of affective knowledge in terms of teaching experience. We may ask further: does teaching

experience have nothing to contribute in the application of knowledge? Experience matters a lot in teaching but if awareness of the concept is not so much clear, it suggests that all teachers regardless their teaching experience will fall under the same category.

### **Conclusion and Recommendations**

Affective knowledge has an enormous contribution towards improving cognitive learning. The study has shown like other empirical studies that teachers accept the fact that students can perform better if proper values, attitudes, and morals are part of their learning packages. However, the administration of affective knowledge is not well communicated because teachers though agree to some extent as compared to other variables, are less aware of the importance of affective knowledge and how the two (cognitive and affective domains) can be integrated. The study has also revealed that teachers regardless of their gender and experience are capable of applying affective knowledge to students provided by implication; are well groomed in the subject. Literature has also shown the way teachers respond and act differently in the administration of affective knowledge. Could this be because affective knowledge is not formally featuring in the curriculum? A study on verifying whether affective learning is part of the curriculum design and curriculum implementation out to be carried out.

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List of Tables

Table 1. Descriptive Statistics for teachers' awareness, competence and application of affective knowledge

	N	Minimum	Maximum	Mean	Std. Deviation
AWARENESS	41	2.33	3.67	2.8902	.34482
COMPETENCE	41	2.17	4.00	3.2805	.41069
APPLICATION	41	2.33	3.83	3.0537	.31753
Valid N (listwise)	41				

Table 2. ANOVA for teacher's competence categorized according to qualification

COMPETENCE	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.707	3	.236	1.445	.245
Within Groups	6.039	37	.163		
Total	6.747	40			

Table 3. Group Statistics for Teachers' awareness categorized according to gender

What is your gender?	N	Mean	Std. Deviation	Std. Error Mean
AWARENESS 1.00 Male	32	2.9062	.36154	.06391
2.00 Female	9	2.8333	.28868	.09623



Table 4. Independent Samples Test for teachers' awareness categorized according to gender

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
AWARENESS	Equal variances assumed	1.226	.275	.556	39	.582	.07292	.13124	-.19255	.33838
	Equal variances not assumed			.631	15.821	.537	.07292	.11552	-.17219	.31803

Table 5. Descriptives for teachers' experience in relation to application of affective knowledge

APPLICATION	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
					1.00 1-5 years	14		
2.00 6-10 years	11	3.0909	.26208	.07902	2.9148	3.2670	2.67	3.50
3.00 11-15 years	10	3.1367	.43644	.13802	2.8245	3.4489	2.50	3.83
4.00 Over 16 years	16	2.9444	.34427	.14055	2.5832	3.3057	2.33	3.33
Total	41	3.0537	.31753	.04959	2.9534	3.1539	2.33	3.83

Table 6. ANOVA of Teachers' experience in relation to application of affective knowledge

APPLICATION					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.180	3	.060	.577	.634
Within Groups	3.853	37	.104		
Total	4.033	40			