

DYNAMICS OF TEST-TAKING IN COLLEGE STUDENTS AT THE UNITED ARAB EMIRATES UNIVERSITY

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ABSTRACT

This paper investigated the dynamics of test-taking, relative to the extent to which college students in the United Arab Emirates, employed test-taking strategies, before the test; in managing their time for the test; during the test; and after the test. This paper applied the test-taking strategy scale, developed by Dodeen (2008), who called for additional applications, to validate the scale using different samples, from different educational levels. All in all, a total of 549 students from different colleges in the United Arab Emirates University, participated in the survey. The findings showed that, the students employed a wide variety of test-taking strategies and responded to tests, either proactively or reactively, depending on the degree of preparation that they have. It was also evident that, the extent of use of test-taking strategies was crucial to the preparation and actual test action. On the whole, the dynamics of test-taking, among the students can be shaped by the confluence of a number of factors, but having greater control over circumstances generated by the inevitability of test-taking, can likely translate to better performance, when reinforced by proper skills in test taking.

KEYWORDS: Test-Taking, Test-Taking Strategy, Academic Anxiety, Time Management, After-Test Strategy

INTRODUCTION

Two students, tests are make-or-break events and are the most concrete measures so far that determine success or failure in school. It is an indicator of performance and every student has no choice but to pass his tests in order to get promoted to the next level. No student can get away with tests; test-taking is a way of life in the academy (DeMann, 2013). Student success and failure in school are determined by test results. As such, tests are the sole causal factor for a condition called test-anxiety. Although, anxiety is a common everyday experience, test anxiety is a condition affecting, almost all students.

The prevalence of test anxiety among students has spawned numerous theoretical and practical recommendations, on how to manage it to the effect that, test-anxiety management is fast becoming a sub-specialization, in the management of anxiety disorders. As early as 1952, students have already been classified as high or low-test- anxious (Hembree, 1988). The corollary assumption is that, students pass or fail their examinations simply because; they lack the examination-taking skills (Kumar, Kulkarni, Kavitha, & Manjunath, 2016).

The growing interest in the study of test-taking skills and strategies, comes on the heels of the approaches to learning, on account of individual differences in which learners approach learning itself. These approaches may be regarded as a description of acquired intentions, motives and strategies, which are partly determined by the learning context, in terms of the students' responses to situational demands (Kumar et al., 2016). As such, the individual students'

approaches to examination-taking may vary as well. The common ground, however, is that test scores have become the most important factor determining who gets included in and excluded from educational opportunities, (Taylor & Walton, 1997, p. 67). The strategies and skills of students that ensure the sustained inclusion of students and their access to educational advancement opportunities are collectively known as test-taking strategies. More specifically, test-taking strategies are the cognitive abilities, that allow students to undertake any testing situation, in an appropriate manner and to know what to do before, during and after the test (Dodeen, 2008).

According to Dodeen (2008), test anxiety is a fairly common problem in college students, hence having test-taking strategies can be extremely useful in reducing this anxiety. Dodeen (2008) cited Hembree (1988), who found out that, more than 20% of college students experience this problem with tension or uneasiness occurring before, during or after an exam. While a reasonable level of test-anxiety is useful to motivate students to do better in tests, a high level of test-anxiety may interfere with how students perform (Strnad, 2003). Highly anxious students generally have poor test-taking strategies. They do poorly on essay questions and take-home tests and they have difficulties on multiple-choice verbal items (Culler and Holahan, 1980; Rocklin & Thompson, 1985). Test-taking strategies used to effectively help examinees cope with the problem of test-anxiety. For example, Carraway (1987), investigated the effect of a test-taking strategies seminar on improving students' scores on tests and on reducing their level of anxiety related to testing. The results of this study indicated that students who participated in the seminar had lower test-anxiety levels and higher test scores than their matched peers who did not participate in the seminar.

Dodeen (2008) further elaborated that, tests are usually designed to assess students' knowledge in particular content or materials. When other factors affect students' performance, test scores are no longer valid measures of students' knowledge or ability levels. Test-taking strategies can improve the overall validity of the test scores so that they accurately reflect what students really know. This could be done by ensuring that students lose points only because they do not know the information and not for unrelated reasons. Assessing test-taking strategies of university students are used to study and to understand students' behavior in tests. This can be an initial step in understanding several related phenomena such as why some students do poorly in exams.

Towards this end, Dodeen (2008), developed a test-taking strategy scale and estimated its psychometric indices. He conducted the study in the United Arab Emirates University, which involved a number of developmental steps: (1) determining basic test-taking strategies; (2) developing the scale items; (3) piloting the scale; (4) assessing validity and reliability; and (5) discriminating the items that comprised the scale. As a result, a continuum of strategies was identified which included strategies employed before the test; time management; strategies deployed during the test; and after-test strategies. According to Dodeen (2008), the scale, to the best of his knowledge, is the first comprehensive scale developed to assess test-taking strategies used by university students. Additional applications, however, are needed to replicate and validate the scale using different samples from different educational levels.

This paper is a response to Dodeen's (2008) call for additional applications not in the trajectory of validating the scale, but focusing on the content building by the use of the scale. Therefore, this paper explored the test-taking strategies of a cross-section of student sample from the United Arab Emirates University with the end view of understanding the dynamics involved in test-taking among college students.

METHODS

This paper made use of the quantitative method of research and employed the survey to generate the research data.

Participants

The participants were selected through convenience sampling, where students were recruited at random from the different colleges to participate in the study. The students who were willing to participate in the survey during the two days set for data collection comprised the participants of the study. All in all, a total of 549 students from different colleges and year levels in the university participated in the survey.

PROCEDURES

The instrument used was the test-taking strategy scale developed by Dodeen (2008). The instrument is a 5- point Likert scale ranging from 1 (Never) to 5 (Always), which measured the strategies used by the students before the test, in time management, during the test, and after the test. Some items were stated in the positive direction, such that the higher score, the better, in terms of using or having the appropriate test-taking strategies or skills. Conversely, other items in the scale were stated in the negative direction. These latter items had to be re-coded before conducting any further statistical analysis. The data were processed using weighted means that were interpreted using the following arbitrary equivalents to determine the extent to which the strategies were employed by the students

Table 1

Mean Range	Extent
4.20 – 5.00	Always
3.40 – 4.19	Often
2.60 – 3.39	Sometimes
1.80 – 2.59	Seldom
1.00 – 1.79	Never

The significant difference in the use of the strategies was determined using the t-test, and F-test.

RESULTS AND DISCUSSIONS

The following shows the strategies of the students relative to the extent to which they employ various test-taking strategies before the test; time management; during the test, and after the test.

Table 1 shows that generally, the students often use various test-taking strategies before the test (M=4.19). Of the different strategies, however, spending most of the night before the test studying (M=4.23); bringing to the test all necessary materials (M=4.22); talking to other students about the test (M=4.22); and reading the test instructions extremely carefully (M=4.27) was always done by the students. Often times they do not attend the last few classes before the test (M=4.14); drink lots of coffee or soda before the test (M=4.02) and continue studying and reviewing until the last minute (M=4.16).

Table 2: Taking Strategies of Students before the Test

Before the Test	Mean	Extent
I do not attend the last few classes before the test	4.1456	Often
I spend most of the night before the test studying	4.2152	Always
I drink lots of coffee or soda drinks before the test	4.0253	Often
I bring to the test all necessary materials	4.2278	Always
I do not take my breakfast when I have a test	4.2342	Always
I continue studying and reviewing until the last minute	4.1646	Often
Before the test, I talk with other students about the test	4.2152	Always
I read the test instructions extremely carefully	4.2722	Always
Average	4.1875	Often

The results generally indicate that the students do not take tests for granted and spend some serious time preparing for this. The downside of test-taking however, is that some students often sacrifice some of their classes to make preparations for their exams. Others who have not thoroughly prepared for the test resort to cramming.

Table 2 shows that generally, the students often manage their time in test-taking (M=4.16). The students often use the full time allowed for the test (M=3.78); leave when others have left the room (M=3.41); use the time to review the answers (M=3.78); outline the remaining information (M=3.71); commit themselves to the time assigned to each question, and mark the questions that they do not know (M=4.16). It is only sometimes that the students estimate the time to answer each question (M=3.11).

Table 3: Time Management Strategies of Students in Test-Taking

Time Management	Mean	Extent
I use the full time allowed for the test	3.7848	Often
When other students leave the test room, I feel I should leave it too	3.4077	Often
I estimate how much time I have to answer each question	3.1076	Sometimes
I use the extra time I have to review my answers	3.7848	Often
If I run out of time, I outline the remaining information	3.7025	Often
I am committed to the time assigned to each question	3.6266	Often
I mark the question that I do not know	4.1646	Often
Average	3.6555	Often

The results show that the students only often maximize the time for test taking and only sometimes anticipate the time needed to complete the test which is very essential in time management because it sets the parameters for whatever actions need to be taken.

Table 3 shows what generally what the students do during the test. The variety of strategies that students always use include reading each question carefully before answering (M=4.28); giving all answers that they know if they did not understand the question (M=4.27); leaving answers blank if they do not know the answer (M=4.35); organizing the answers in the mind before writing it down (M=4.31); making some intelligent guesses (M=4.21); asking for clarification from the teacher (M=4.22); and considering the weight of each answer (M=4.23). It can be noted that the students often check their work when it looks right (M=4.17); think of the results more than the test itself (M=4.14), and not reading the question when it looks familiar (M=4.16). The students only sometimes underline words and phrases in the question (M=3.08).

Table 4: Taking Strategies of Students During the Test

During the Test	Mean	Extent
I read each question carefully before trying to answer it	4.2848	Always
I underline important words and phrases in a question	3.0886	Sometimes
If I do not understand a question, I give all the answers I know	4.2785	Always
If I do not know the answer, I leave it blank	4.3544	Always
I do not read the whole question if it looks familiar to me	4.1646	Often
I organize my answer in my mind before writing it down	4.3038	Always
I think of the result more than the test itself	4.1456	Often
If I do not know the answer, I make some intelligent guesses	4.2089	Always
I check my work even when it looks right	4.1709	Often
If something is unclear, I ask for clarification	4.2278	Always
I consider the score of each question before trying to answer it	4.2342	Always
Average	4.2075	Always

The strategies used by the students also are reflective of their priorities in test-taking. The foremost of which is to complete the test on time and with accurate answers. While others come up with the best guess, some just leaves the answer blank to a question indicating their priority to make the test of time. There is also the tendency for the students organize their answers before writing it down and this ensures some degree of accuracy of answers. Asking for clarification is a necessary step in understanding the question which students always resort to. On the whole, the time management strategies used by the students reflect on either their inclination towards efficiency or effectiveness in test-taking or both.

While some students do not follow through on the exams that they take, the students in the study sample often spent some time going through the process ($M=4.16$). A good practice is seen that the students always use their experience in test-taking ($M=4.24$) as a means to improve further performance. Similarly, the students always paid attention to the answers when the test is reviewed ($M=4.29$). Often times, the students trace back the origin of the question ($M=4.14$) and determine the reasons why their scores were reduced ($M=4.08$). The strategies used by the students after taking a test show that tests can serve as an important learning tool which students can learn from after taking an exam.

Table 5: Taking Strategies of Students after the Test

After the Test	Mean	Extent
I sum my sub-grades and compare them with my total score	4.0696	Often
I identify the origin of each question	4.1456	Often
I determine the reasons that effectively reduced my scores	4.0823	Often
Based on the current test results, I improve my preparation methods	4.2405	Always
I listen carefully to any in-class review when the test is handed back	4.2975	Always
Average	4.1671	Often

Difference in the test-taking strategies of male and female students

Table 2 shows the difference in the extent to which male and female students employed test-taking strategies before the test; in managing their time for the test; during the test; and after the test.

Table 6: Difference in the Test-Taking Strategies of Males and Females

	Male	Female			
Strategies	Mean	Mean	Total	t	P
Before the test	4.2747	4.0739	4.1903	2.075	.040*
Time management	3.5856	3.7532	3.6561	-1.73	0.086
During the test	4.2703	4.1	4.1987	1.753	0.082
After the test	3.5879	3.7992	3.6768	-1.954	0.052

Based on the mean scores for each category of test-taking strategy, it appears that male students always ($M=4.27$) engaged in various test-taking strategies before the test compared to female students who often ($M=4.07$) did. The t-test showed that the observed difference between males and females was statistically significant, $t=2.075$, $p<.05$. This confirmed that the male students were more prepared to take their test compared to females.

On the other hand, it can be gleaned from the table that both male ($M=3.59$) and female ($M=3.65$) students often engaged in time management strategies relative to test-taking. Accordingly, the t-test showed that the observed mean difference between males and females was not statistically significant. This indicates that the extent to which male and female students employed time management as a test-taking strategy did not significantly differ, $t=.086$, $p>.05$. Regardless of sex, students used time management strategies in test-taking to the same extent. Hence, the use of time management strategies in test-taking is not sex-specific.

It can be observed that male students always ($M=4.27$) used test-taking strategies during the test compared to female students who often ($M=4.10$) did. The t-test however, showed that the observed mean difference between male and female students relative to the use of test-taking strategies during the test did not significantly differ, $t=.082$, $p>.05$. Regardless of sex, the students used test-taking strategies during the test to the same extent. Hence, the use of test-taking strategies during the test is not sex-specific.

Lastly, it can be observed that male ($M=3.59$) and female students ($M= 3.80$) often used test-taking strategies after the test. The t-test confirmed that the observed mean difference between the two groups was not statistically significant, $t=.052$, $p>.05$. This indicates that students employed the same extent of test-taking strategies after the test. Hence the use of test-taking strategies after the test was not sex-specific

Difference in the Test-Taking Strategies According to Year Levels

Table 3 shows the difference in the extent to which students in the different year levels employed test-taking strategies before the test; in managing their time for the test; during the test; and after the test.

It can be observed that third ($M=4.37$) and fourth ($M=4.37$) year students always engaged in various test-taking strategies before the test compared to second ($M=4.19$) and first ($M=3.96$) year students who only often did so. Accordingly, the F-test showed that the observed mean differences among the students were statistically significant, $F=2.86$, $p<.05$. This indicates that third and fourth-year students prepared more for their test compared to first and second-year students.

Table 7: Difference in the Test-Taking Strategies of Students According to Year Level

	First	Second	Third	Fourth			
Strategies	Mean	Mean	Mean	Mean	Total	F	P
Before the test	3.957	4.1948	4.3714	4.375	4.1903	2.857	.039*
Time management	3.701	3.7591	3.433	3.0357	3.656	4.138	.007*
During the test	3.931	4.2442	4.32	4.3	4.199	2.852	.039*
After the test	3.742	3.8285	3.85	3.375	3.804	1.015	0.388

Students in all the year levels often engaged in time management strategies relative to test-taking. The F-test showed, however, that there was a significant difference, $F=4.14$, $p < .05$ among the students in different year levels relative to using time management strategies. Descriptively, all students often engaged in time management relative to test-taking. Statistically, however, it appears that first and second year students used time management strategies more often compared to third and fourth year students who less often did so.

The table further shows that second ($M=4.24$), third ($M=4.32$), and fourth ($M=4.30$) year students always used test-taking strategies during the test compared to first ($M=3.93$) year students who often did so. The F-test confirmed that the observed mean differences among students in the various year levels were statistically significant, $F= 2.85$, $p < .05$. This indicates that second, third, and fourth-year students were more systematic in test-taking compared to first-year students.

Lastly, it can be observed that students in all year levels engaged in the same extent of after-test strategies. Accordingly, the F-test confirmed that the observed means of the different year levels did not significantly differ, $F=1.02$, $p > .05$. This indicates that students of all year levels often engaged in after-test strategies.

Difference in the Test-Taking Strategies According To Course

Table 4 shows the difference in the extent to which students in the courses employed test-taking strategies before the test; in managing their time for the test; during the test; and after the test.

It can be observed that students in the CHSS ($M=4.27$); CBE ($M=4.24$); CFS ($M=4.25$); and CIT ($M=4.30$) always engaged in various test-taking strategies before the test compared to students in EDU ($M=3.95$); COS ($M=4.09$); and CL ($M= 3.63$) second ($M=4.19$) who only often did so. Accordingly, the F-test showed that the observed mean difference among the students in the different colleges was not statistically significant, $F=.77$, $p > .05$. This indicates students in the different colleges used test-taking strategies before the test to the same extent.

Table 8: Difference in the Test-Taking Strategies of Students According to Course

	CHSS	EDU	COS	CL	CBE	CFS	CIT			
Strategies	Mean	Total	F	P						
Before the test	4.266	3.952	4.09	4.171	4.237	4.245	4.292	4.18	0.77	0.59
Time management	3.5	3.687	3.767	3.625	3.589	3.709	3.587	3.64	0.38	0.88
During the test	4.375	3.942	4.095	4.225	4.227	4.256	4.356	4.19	1.03	0.42
After the test	3.625	3.785	3.79	3.781	3.826	3.78	3.778	3.79	0.15	0.98

In terms of time management, the means of the students in the different colleges show a similar trend all throughout as they all often engaged in time management strategies relative to test-taking. The F-test confirmed this

observation as the result of the test showed that there was no significant difference, $F=.88$, $p >.05$, in the use of time management strategies among the students belonging to the different colleges. This indicates that regardless of college, all students often engaged in time management strategies.

Students in the CHSS ($M=4.38$); CL ($M=4.22$); CBE ($M=4.23$); CFS ($M=4.26$); and CIT ($M=4.36$) appeared to have always engaged in test-taking strategies during the test. The F-test however, shows that the observed difference in the means of the students in the different colleges relative to test-taking during the test was not statistically significant, $F=1.03$, $p >.05$. This indicates that the same extent of use of test-taking strategies among the students regardless of college.

Lastly, it can be observed from the means of the students in the different colleges that they often engaged in after-test strategies. This was confirmed by the F-test which showed that there was no significant difference in the extent of after-test strategies used by the students regardless of the college which they belonged to.

DISCUSSIONS

The significance of tests in affirming student performance and its use as a crucial measure for the promotion of students to the next higher level had made test-taking a way of life in the academe. Others use the term academic survival to emphasize that degree of difficulty that can also be involved in test-taking. Dodeen (2008) citing McClelland & Craig (1989) reiterated the importance of test-taking strategies as means of helping students translate their knowledge from classroom learning. It had been suggested that students who have or acquire test-taking strategies or skills can perform better than expected (Dolly & Williams, 1986). On the other hand, students who are expected to do well in tests but do not, either lack testing strategies or use poor ones (Vattanapath & Jaiprayoon, 1999). In fact, some argue that, test-taking strategies are just as important as having the basic knowledge and information to answer the test questions (Langerquist, 1982). Studies indicate that students with test-taking strategies have more positive attitudes towards tests; have lower levels of anxiety; and have better grades (Vattanapath & Jaiprayoon, 1999). Even students who are familiar with the subject matter may do poorly in tests because of the lack of test-taking skills (Sweetnam, 2003). Dreisbach and Keogh (1982) for instance studied the effect of test-taking strategies on students' performance on a school readiness test and the results showed that test-taking strategies have an important influence on students' performance. Dolly and Williams (1986) investigated the effect of using test-taking strategies on multiple-choice test scores and those participants receiving test-taking strategy training for several weeks outperformed their counterparts on tests.

An analysis of the test-taking strategies used before the test by the students in this investigation point out that they used both positive and negative strategies. Spending the whole night studying, drinking lots of coffee, or cutting classes in preparation for a test might not be sound physically and academically. Likewise, the use of time management strategies by the students in the study shows mixed results. What is noteworthy are the strategies that they used in taking the test which reflects something systematic and not leaving anything to chance except in a few cases. While most students would rather relegate the test to the past after taking it, it is also a good sign that the students talk about their test after finishing with it.

What is reflected in the data is the focus of students on strategies before the test which reflects some degree of preparation and their actual strategies in taking the test reflective of execution. Preparing for the test and trying one's best to make the test is an indicator of the resolve of students to pass the test. On the whole, it can be seen that students react to test either proactively or reactively depending on the degree of preparation that they have. Students have no recourse but to

muster whatever resources they have to attain better performance during tests. Reinforcing this with formal skills training in test-taking can help cushion the impact on students and can help reduce academic anxiety.

While studies have shown that, females prepare themselves more for a test (Kimbal, 1989), from this investigation, it shows that males outscored females in terms of the strategies used in preparing for the test. It has to be noted though that some of the strategies that males always engaged in were negative hence are no guarantee of better preparation. Likewise, the strategies employed by the participants do not necessarily reflect performance. Hence, there is a need for more systematic skills training in taking tests. A trend in the data also showed that those in higher year levels had increased frequency in the use of these strategies which might be reflective of the increasing complexity of experience that they encounter in their academic journey.

The results also indicate that the students took control over the use of test-taking strategies hence the determinants of success is internal. Individuals who take control internally consider success in exams as the result of their own initiatives (Newton, 2009). Hence, it can be inferred that the students had a high locus of control in test-taking. The negative takeaway of this situation is if the efforts do not guarantee results and exerting much effort in studying only to get a low grade can be the situation that compounds academic anxiety and frustration.

CONCLUSIONS

The findings of the study point out that all students engage in some form of test-taking strategy that can either be positive or negative. The extent to which they used these strategies indicates the tendency that these can be habitual in nature. It is also evident that the extent of use of test-taking strategies was crucial to the preparation and actual execution of test taking. Time is a vital factor in test-taking and it has been shown that this critical resource is either managed by the students in a reactive or a proactive manner. The strategies used by the students indicate their interest in results and this can be an opportunity to leverage test-taking as a tool for positive learning experiences. The dynamics of test-taking among the students can be shaped by the confluence of a number of factors but having greater control over circumstances generated by the inevitability of test-taking can likely generate better performance when reinforced by proper skills in test taking.

REFERENCES

1. Carraway, C. (1987). Determining the relationship of nursing test scores and test-anxiety levels before and after a test-taking strategy seminar. (ERIC Document Reproduction Service No. ED 318 498).
2. Culler, R. E., & Holahan, C. J. (1980). Test anxiety and academic performance: The effect of study-related behavior. *Journal of Educational Psychology*, 72, 16-20.
3. DeMann, M. (2013). Introduction to tests and measurements. New Jersey: Prentice-Hall.
4. Dodeen, H. (2008). Assessing the test-taking strategies of university students: developing a scale and estimating its psychological indices. *Assessment and Evaluation in Higher Education*, 33(4).
5. Dolly J P., & Williams, K. S. (1986). Using test-taking strategies to maximize multiple-choice test scores. *Educational and Psychological Measurement* 46, 619-625.
6. Dreisbach, M., & Keogh, B. (1982). Testwiseness as a factor in readiness test performance of young Mexican-American children. *Journal of Educational Psychology*, 72 (2), 224-229.

7. Hembree, R. (1988). Correlates, causes, effects, and treatment of test anxiety. *Review of Educational Research*, 58(1), 47-77.
8. Kumar, S., Kulkarni, P., Kavitha, H., & Manjunath, R. (2016). Study skills and strategies of the medical students among the medical colleges in Mysore district, Karnataka, India. *International Journal of Community Medicine and Public Health*, 3(9), 2543-2549.
9. Langerquist, S. (1982). *Nursing examination review: Test-taking strategies*. Menlopark, CA, Addison-Wesley Publishing Company.
10. Mc Clelland, J., & Craig, C. (1989). Facing the reality of achievement test. *Education Canada*, 36-40.
11. Newton, M. (2009). Selected correlates of examination anxiety and academic performance of students in public secondary school in Khwisero sub-county, Kakamega sub-county, Kenya. Kenya: Kenyatta University.
12. Rocklin, T., & Thompson, J. M. (1985). Interactive effects of test anxiety, test difficulty, and feedback. *Journal of Educational Psychology*, 77, 368-372.
13. Strnad, K. (2003). Coping with college series: Handling test anxiety. [Online]. Available at: http://www.counseling.ilstu.edu/files/downloads/articles/coping-test_anxiety.pdf
14. Sweetnam, K. R. (2003). Test-taking strategies and student achievement. [Online]. Available at: <http://www.cloquet.k12.mn.us/chu/class/fourth/ks/strategies.htm>
15. Taylor, K., & Waltion, S. (1997). Co-opting standardized tests in the service of learning. *Phi Delta Kappan*, 66-70.
16. Vattanapath, R., & Jaiprayoon, K. (1999). An assessment of the effectiveness of teaching test-taking strategies for multiple-choice English reading comprehension test. *Occasional Papers*, 8, 57-71.