

An Investigation on Teachers' Grading Pattern towards Graduates in Gondar College of Teachers Education

Temesgen Tadele (M.A)

Lecturer, Vocational Pedagogy Department, Federal Technical Vocational Education and Training Institute, Addis Ababa, Ethiopia

Abstract: The main purpose of the study was to explore grading pattern in Gondar College of Teachers Education graduates between 2011 and 2015. The study was conducted with the rational of scanty information with regard to grading pattern of the college. Therefore, this investigation may foremost valuable and important to the teachers, employers and administrators in this present scenario. Also, this study focused on grade inflation and grading patters across the departments, within various years and between the programs. To conduct the study, 5,802 graduates cumulative GPAs were retrieved and analyzed from the registrar office of the college. All five year graduates in the regular and extension programs were taken in the study. Five departments: Social science, natural science, language, mathematics and physical education departments were included during the study. For this investigation, both descriptive and inferential statistics were employed. Based on investigation, it is identified that there was no grade inflation from 2011 to 2015. However, the study shows that the grading pattern in both regular and extension graduates' grades was escalating by 22% and 10% respectively. CGPA comparison was also made between the regular and extension graduates and the finding reveals that there were significant mean CGPA differences in 2011, 2012, 2014 and 2015 graduates. Moreover, comparison was made among departments and the finding reveals that there were higher average GPAs in language, mathematics, natural science and social science regular and extension graduates as well. Finally, the study concludes that grade inflation was not occurred in the college. Although, augmentation of cumulative GPAs was observed in both programs, regular graduates scored higher CGPAs than the extension graduates.

Key words: Grade inflation, Grade increment, Average grade point, Grading system.

1.0 Introduction

A common complain today in higher education is that grades given to the students are too high and do not accurately reflect academic performance of the students (Chan, Hao & Suen, 2005). Many administrators of colleges and universities are relenting to grade inflation rather than fighting it. According to Winzer (2002) it seems that the goals of an increasing number of students are to receive higher grades with the least amount of time and effort as possible.

On the other hand, not everyone agrees that grades are inflated these days than in days back. Some people agree that even if average grades have been increased, the phenomenon of grade inflation is totally exaggerated. Regarding to this, Winzer (2002) noted that those assailing high grades may have overlooked different factors. For example, high grades may be the result of good teaching and students' effort. The teaching-learning process in the past was more difficult than today. Therefore, grade inflation is resulted because of a numerous reasons and it may be seen from different perspectives.

One of the results of grade inflation is damaging graduates' view of their competent and achievement. Besides, graduates will lose confidence in the world of work when they unable to perform very well like their colleagues. Regarding to these issues, Staples (1998) indicated that student academic effort is devaluated because of inflated grades and it may consequently affect the academic performance in particular and future employment in general.

On the other hand, inflated grades may help students who have poor academic ability and performance. Inflated grades reward mediocre students as the expense of good students. Chan, Hao & Suen (2005) showed that colleges

that have less concerned for quality education and competent students are more likely to inflate the grades. When students expect to receive high grades without putting forth the effort, then they will gradually decrease their effort and time to be budgeted for reading. Grade inflation is not only pumping up GPAs but also it contributes for the deterioration of academic standards, quality of teaching, and fundamental ethics of the academic world.

Grade inflation has got attention in the academic world in recent years with administrators, faculty deans and professors. The most concerning issue is that grade inflation provides students with a distorted view of themselves, and their actual competence and achievement. As a result, nowadays, grades providing less accurate information to the employers and the public. For instance, employers become dissatisfied with grade reports and they do not relay graduates' grade reports because of rampant grade inflation.

These days, simply graduating from university and college is too easy than earlier decades. With widespread grade inflation, the information value of a degree's grade has deteriorated and grades do not serve as the important measure for employers. This conclusion leads inevitably to the notion that grade inflation is not exclusive by the academy; the problems spill over to affect many areas (Winzer, 2002).

Grade inflation is explained an increase in graduates' grades without an accompanying increase in their actual academic achievement. Hence, investigating grade inflation may not be an easy task to detect the problem. It requires both examinations of grades across time and a stable measure against the given standard.

There was scarcity of empirical research in Gondar College of Teachers Education on the area of grade and grading system. Grade analysis was one of the neglected issues in the college. Therefore, this study explores the status of grading pattern and grade inflation in the college. To analyze the nature of grading the study posed the following research questions?

1. Is there any grade inflation in Gondar College of Teachers' Education graduates?
2. Is there an increment in average grade point (CGPAs) between 2011 and 2015 graduates?
3. Is there average GPAs variation between regular and extension graduates?
4. There is no significance GPAs difference between regular and extension graduates from 2011 to 2015?

2.0 Objective of the study

This study was designed to explore and analyze the trend of grading in Gondar College of Teachers Education. To investigate the problem the study stemmed the following objectives.

1. To figure out the prevalence of grade inflation in Gondar College of Teachers Education over five years.
2. To compare grading pattern across the departments.
3. To compare graduates CGPAs between regular and extension programs.
4. To show the trend of grade pattern in the college graduates.

3.0 Theoretical frame work

Grade is one of the instruments to measure students' knowledge and performance in higher education level and all academic institutions. However, oftentimes the grades that are given to the students may not be typically representing the real performance of the students. As a result, such scenario has an impact on the academic area and in the world of work. Besides, the consequence of grade inflation is ultimately reducing the reliability of the grading system to predict students' capabilities and success. For instance, students whose grades are higher than earned ultimately seek jobs in the public and private sectors and their knowledge, or lack thereof, may have wide reaching consequences (Kulick & Wright, 2008).

The concept of grade inflation was explained by different scholars. Multiple definitions of grade inflation were offered over the years with most including the premise that grade inflation occurs when a grade is deemed less rigorous than it should be (Kulick & Wright, 2008). According to Sadler (2009) it was defined as an upward shift in the grade point average (GPA) of students over an extended period of time without a corresponding increase in student academic performance.

A widely accepted definition is that posed by Compton & Metheny (2000) who proposed that grade inflation is a significant increase in average course grades over a number of years without a concomitant increase in students'

actual performance of academic achievement. In general, inflation implies that grades are raised due to an artificial increase independent of academic effort or student characteristics such as ability or effort.

Theoretically, grades are meant to reflect the knowledge and skills of a student acquires in a specific course and a subject matter. This acquired knowledge and skills typically depend on the effort of the teacher puts forth in teaching the course and the exertion of the student in learning the subject matter (O'Gray & Guify, 2007).

In the issue of grade inflation, Johnson (2003) noted different reasons that may lead to grade inflation in the academic area. Johnson also explained four possible alternative explanations which are teacher-effectiveness theory (TET), grade leniency or grade satisfaction, grade attribution theory and adaptation theory. Similarly, grade inflation in the higher education may be prevailing because of different reasons. For instance, the grading system of the institute, the motto of the college, the quality of the teachers and the nature of the students are taken as few factors for grade inflation from plethora reasons and factors.

In relation to grading system, Kulick & Wright (2008) examined that college grading practices at different university and colleges have various approaches in giving grade to students' performance. As a result, there is no uniform way of grading system and practices as observation made. Kulick & Wright added that grading system of the colleges depending on the behavior of the students, the characteristics of faculty, the ability of the students, the effects of grading for future uses of students enrollment and the like.

Besides, Johnson (2003) noted that personal characteristics of college instructors affect students' grade particularly most lenient teachers are the cause of grade inflation in few courses. On the other hand, the nature of the students contributes for grade inflation in a certain college. For instance, currently, there are students who are grade oriented than learning outcome oriented. Such kind of learners may give attention to get high figure grade than knowledge and skill. Consequently, this habit will take the grading pattern and system to be inflated. In relation to this point, Johnson stated that a declining ability level is caused by grade inflation and gradually it will reduce the value of grade.

Johnson (2003) and Matos-Diaz (2014) explained that departments attracted the most capable students graded stringently, while departments that attracted less capable students graded more leniently. According to Matos-Diaz (2014) a normal spread of grades for a lower-ability group of students would occur as faculties adjust their grading standards to the level of student ability. Under these conditions, during periods of higher ability student enrollment, higher grades awarded would not be reflective of grade inflation. Again, faculty would adjust their grading standards so that a spread of grades, similar to the occurring with the lower-ability group, would occur. Matos-Diaz argued that the use of norm-referenced grading criteria would result in adjustment of minimum criteria for higher grades based on student ability level with subsequent maintenance of a constant grade distribution.

Similarly, grading system in the higher education has an impact on the actual grade of the graduates. Getting grade without the expected level of knowledge and skill has great impact on the person who graduated from the university especially for employers. It is believed that, higher education institution shall follow strict grading system to produce quality and competent graduates. Besides, the brand of the colleges will be highly capitalized through the quality of the graduates. Hence, conducting a research that discovers the pattern and the grading system of higher education institute has a paramount value for graduates, universities, colleges and employers. Realizing the importance, this study focused on exploring the graduate grading pattern in Gondar College of Teachers' Education graduates. Five years college students' average grade archive was used to investigate the grading pattern of the graduates.

4.0 Research Method

The major purpose of the study was to investigate the grading pattern of Gondar College of Teachers Education particularly in the regular and extension program graduates. Five years graduates CGPAs were taken in the study to get reliable information about graduates grading tradition in the college. Therefore, 5,802 graduates (3,054 from regular & 2,748 from extension program) from five departments were taken in the study. Then, the academic records of 5,802 graduates were reviewed from the registrar office. The major source of data of the study was graduates document analysis. Cumulative GPAs of five departments (Social Science, Natural Science, Mathematics, Physic Education and Language) archival records between 2011 & 2015 was taken.

Each graduate GPAs was entered in the SPSS version 17 and descriptive values and t-values were calculated. Throughout the study average comparison was employed to check the average GPAs difference between the regular

and extension graduate and across the departments, from 2011 to 2015. Besides, t-test was computed to determine statistically significant mean differences between the regular and extension graduates among departments and years of graduation.

5.0 Analysis and Interpretation

The major purpose of the study was to investigate the nature of grading pattern of Gondar College of Teachers Education. Graduates GPA data was taken and analyzed as follow.

Table 1: Average cumulative GPAs across departments between 2011 and 2015 in the regular and extension programs

Department	2011		2012		2013		2014		2015	
	Regular	Extension								
Language	2.58	2.50	2.61	2.44	2.52	2.54	2.65	2.53	2.69	2.40
Mathematics	2.55	2.39	2.58	2.39	2.59	2.64	2.78	2.47	2.66	2.51
Natural Science	2.54	2.40	2.39	2.50	2.64	2.50	2.75	2.58	2.67	2.52
Social Science	2.52	2.48	2.54	2.49	2.45	2.57	2.83	2.65	2.74	2.58
Physical Education	2.45	2.51	2.39	2.42	2.49	2.44	2.53	2.49	2.67	2.38
Average CGPAs	2.53	2.46	2.50	2.45	2.54	2.54	2.71	2.55	2.69	2.48

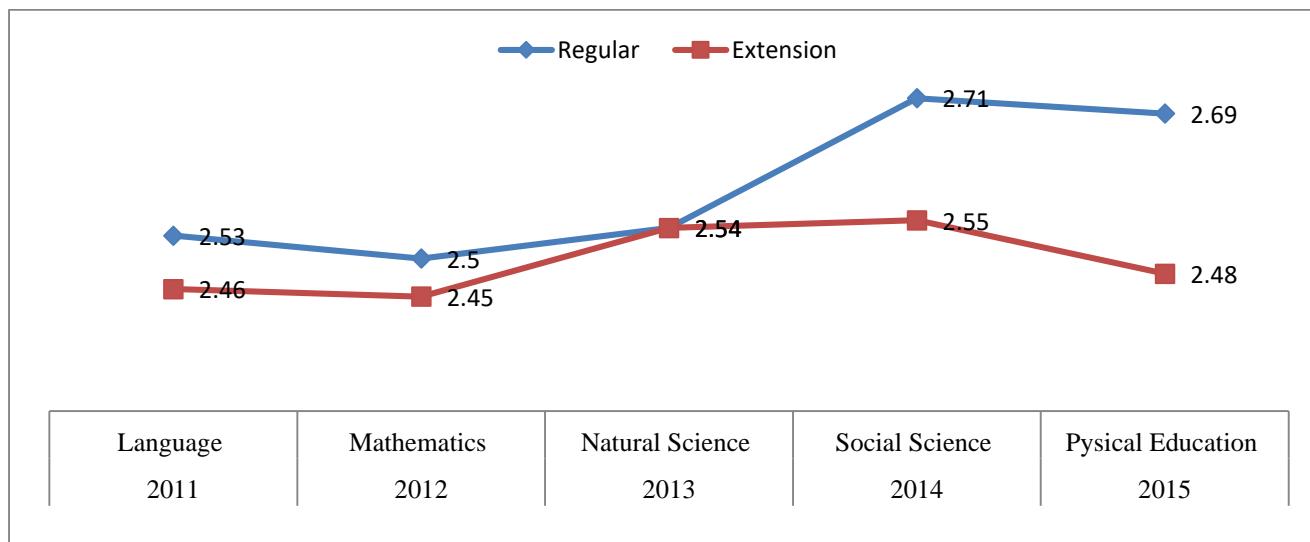
Note: Grand average CGPAs for five years in the regular and extension graduates were 2.59 and 2.48 respectively

Inference:

- In 2011, there was mean difference between extension and regular graduates. Particularly, in the regular graduates: Language, Mathematics, Natural Science and Social Science departments showed relatively higher mean than the extension graduates. However, in the Physical Education department the regular graduates CGPAs was smallest than the extension program graduates. In the same year, comparison was also made across the departments. Based on this, regular Language department graduates had better CGPAs than the other department graduates. On the other hand, from the extension program, Physical Education graduates brought the highest CGPAs than the other departments.
- Aggregately, in all departments, the overall average CGPAs of the regular and extension graduates were 2.53 and 2.46 respectively. This shows that there was mean difference between the regular and the extension program graduates by 0.07 point. Besides, t-test ($t=4.67$, $P<0.05$) testifies that there was statistically significant average CGPAs difference between the regular and extension graduates in 2011.
- By the year 2012, there was average mean difference between regular and extension graduates. Regular program graduates scored higher than the extension graduates and consequently the difference was 0.05 point. Regular graduates who were belonging under Language, Mathematics and Social Science departments brought highest mean GPAs than the extension program graduates. However, in the extension program, Natural Science and Physical Education department graduates scored highest average mean GPAs than the regular program graduates. In 2012, regular program graduates of all departments showed 2.50 CGPAs whereas the extension program graduates achieved an average of 2.45 CGPAs. Like the previous year, in 2012 graduates in the regular program surpassed the extension program graduates.
- Mean comparison was also made among the regular and extension graduates. From the regular program, Language graduates scored highest average CGPAs than the other departments. On the other hand, in the extension program Natural Science department graduates scored highest average GPAs than the other departments. In 2012, there was a significant average CGPAs between regular and extension program graduates ($t= 3.67$, $P<0.05$).

- In 2013 both the regular and extension program graduates scored nearly the same amount of average CGPAs. Specifically, comparison was done between the regular and extension program graduates. Relatively, in the regular program Natural Science and Physical Education department graduates scored slightly higher average CGPAs than other departments. On the other hand, from regular graduates Language, Mathematics and Social Science brought lower average GPAs when they compared with the extension program graduates. Generally, the 2013 data shows that there was the same average academic achievement in both programs. Consequently, there was no visible average CGPAs difference between the extension and regular programs graduates of the specified year.
- In 2014, all department graduates in the regular program scored highest CGPAs than the extension program graduates. Similarly, the average CGPAs of regular graduates was greater than the extension program graduates. Average CGPAs was taken and compared amongst the departments in the extension and regular program. Based on this comparison Social Science department graduates got the highest CGPAs than the remaining regular department graduates. Similarly, in the extension program, Social Science department graduates scored highest CGPAs.
- In 2014, the average GPA of regular graduates was greater than the extension graduates by 0.16 point, which means that there was difference between regular program graduates and extension graduates. In the other way, students who attended in the regular program were achieved higher GPAs than those who had attended in the extension program. In this year, there was significant average CGPAs difference in the regular and extension graduates irrespective to their departments ($t=6.49$, $P<0.05$).
- Though there was average CGPAs difference between the regular and extension program graduates, there were proportional increments of grades with the two programs. The levels of grades which were given in 2014 showed a certain increment when grades were compared with previous years of graduates.
- In 2015, regular program graduates scored higher average CGPAs than extension program graduates. Regular graduates got 2.69 averages GPAs while the extension graduates got 2.48 averages CGPAs. Comparison was made among regular and extension program graduates and it shows that in regular program, Social Science graduates achieved highest CGPAs than the rest of the departments. Similarly, in the extension programs Social Science graduates scored highest CGPAs than the remaining departments. Similarly, in 2015, the average CGPAs between the regular and extension graduates shows a significant difference ($t=5.26$, $P<0.05$).

Figure 1: The trend of Cumulative GPAs between regular and extension graduates within five years



- The average CGPAs graduated from 2011 to 2015 increased by 0.22 points and 0.10 points in the regular and extension programs graduates respectively. These indicate that when the extension program graduates CGPAs increased by one magnitude, the regular graduates' grade would be increased by two fold of it. In

general, from five years graduates' data, the average CGPAs of the Gondar College of Teachers Education graduates increased by 22% and 10% in the regular and extension programs respectively.

- The grand mean of each year graduates were computed for five years between the regular and extension programs. In each category mean comparison was done between the regular and extension program graduates between 2011 and 2015. In the regular program batch 2011, 2012, 2014 and 2015 highest mean CGPAs than the extension program graduates. However, in 2013 both regular and extension graduates brought equal CGPAs.
- On the other hand, grand mean comparison from 2011 up to 2015 was computed in both program graduates. The regular and extension program graduates showed the grand mean GPAs of 2.59 and 2.48 respectively. These numbers reveals that the grand mean CGPAs of regular program graduates was greater than the extension program graduates within five years.
- Generally, comparison of graduates CGPAs in the regular and extension program across all departments between 2011 and 2015 was done. Regular program graduates got highest GPAs than the extension program graduates. Moreover, there was mean CGPAs difference in Language ($t= 5.32, P<0.05$), Natural Sciences ($t= 5.28, P<0.05$), Mathematics ($t= 4.62, P<0.05$) and Social Science ($t=7.89, P<0.05$) departments. However, there was no statistical significant average CGPAs different in Physical Education department graduates between regular and extension graduates, from 2011 and 2015.

6.0 Discussion

The aim of this study was to empirically investigate the grading trend of Gondar College of Teachers Education between programs, across departments and over five years. The first question was designed to check grade inflation in the college. However, the study portrays that there was no grade inflation based on graduates' CGPAs. Supporting this finding, according to Granberry & Stiegelesr (2003) stated that grade may be considered as inflated if the average graduates GPAs is greater than or equal to 3.50. Besides, if a professor gives half A's and B's for all students without D's and C's then it is taken as a sign of grade inflation. But, according to these assumptions, grade inflation was not seen in the college.

This finding is corroborated by Apple (2002) finding and indicated that an examination of over 1,200 students' grade over a five years period showed relative stability in grades awarded. Similarly, grade inflation does not exist at south college standardized tests and GPAs are used to conduct analysis (Taylor, 2007). Ziomeck & Suec (1995) stated that higher grades do not equate to higher standardize test scores.

Thus, the aforementioned studies portrayed that not everyone agrees that grades are inflated or that average grades are higher today than in the past. Though, average grades have been increased, the phenomenon of grade inflation is highly overstated. With regard to this concept, Winzer (2002) noted that the cause of high grades may have overlooked with different factors; for example, high grades may be resulted by good teaching and student effort.

On the other hand, there is a controversy results about higher institution grading pattern. A substantial rise over time in GPA at colleges in the United States was recorded (Babcock, 2009) however, empirical evidence on effectives of grade inflation has been sparse and theoretical predictions have been ambiguous. Mainly, it is believed that grade inflation reduces student effort, which in turn, reduces human-capital accumulation under fairly modest conditions; lower human capital accumulation among prospective teachers in college will negatively affect teacher quality (Koedel, 2011).

In addition to exploring grade inflation in the college, the second concern of this study was figure out if average GPAs augmentation between 2011 and 2015 in the regular and extension programs. The study reveals that there were an increment of grade points 0.02 (20%) in the regular graduates and was observed 0.01 (10%) in the extension

programs within five years. Hence, this finding indicates that there was CGPAs increment over five years. Supporting this finding, Hu (2005) stated that average grade increment is very common over time and is often misrepresented as grade inflation. Hu added that in average institutional GPAs are trending upward pattern in grades from time to time.

According Lawrence (2006) grade rise is explained as in educational institutions over time shown there is change in GPAs because of different factors. For example, one study at Princeton University indicated that the average institutional GPA increased within 20 years period by approximately 0.20 point. Further analysis suggests that one contributing component in the rise of average GPAs at the university level is the concurrent increase in the proportion of women, who on average higher GPAs than their male counterparts.

Trends in mean grade point averages were examined between 1984 and 2004 to determine whether there was a significant pattern of aggregate grade increase over time for undergraduate junior and senior students. Analyses were done at the institution level as well as at the college and school level, GPA averages and frequencies were utilized to examine the changes in average GPA overtime (Lawrence, 2006).

Thompson (2015) suggested that grades rose slightly over years. Similarly, evidence of college grades increasing overtime comes from a number of scores. Using data on self-reported GPAs, Kohn (2002) find out that average grades increased for all types of post-secondary institutions between the 1980's and 1990's with the largest increases observed at research universities.

On the other hand, average GPAs difference across the departments was computed to testify grade variation among departments between 2011 and 2015. As a result, Mathematics, Language and Social Science department graduates scored highest average GPAs than the Natural Science and Physical Education departments. Thus, the finding shows that there was GPAs variation among the departments.

There are different findings which support GPA differences amongst the departments. Ekstrom & Villegas (1994) reported that there is evidence from nine colleges and universities that grade variation and disparity for the past 25 years from one department to other departments. Consequently, Ekstrom & Villegas argued that these differences affect course choice of the students and make it difficult to attract students towards mathematics and science fields in which grades tend to be lower than in the arts and humanities. Similarly, Thompson (2015) stated that most of the inflation was accounted for by fewer fails being assigned in many of the sciences, including Chemistry, Math and Economics, although they too experienced some increase in the proportion of A's.

In contrast, there were fewer significant differences in faculty opinions about the purposes of grading than in grading philosophies and practices, faculty in mathematics and history were more likely to view grades as a way of motivating students than were faculty in education and psychology (Ekstrom & Villegas, 1994).

Lastly, GPA comparison was made between the regular and extension graduates. Based on the computation, there was an average GPAs difference between the regular and extension graduates. Thompson (2015) found that the average grade-point average at private college students rose from 3.08 in 1990 to 3.50 in 2007. At public colleges and universities, the increase was from 2.79 to 3.42 over the same time period. The study also examines and seeks to refute the idea that students are earning better grades simply because they are better prepared. The greatest increases in grades appear to be coming at flagship public universities in the South and at selective liberal arts colleges.

The liberalized incomplete and withdrawal polices at one institution resulted in dramatically higher cumulative GPAs (Ekstrom & Villegas, 1994). In a major study of more than 52,000 students from 112 institutions in two times periods, the mid 1970s and the mid-1990s grades appear to still reliable distinguish among students in terms of academic effort. However, the absolute amount of efforts students devote on average to academics may have suffered somewhat. That is, the amount of time students devote to their studies in higher school to be not as well prepared for college as previous cohorts.

7.0 Recommendations

Based on the findings, the following recommendations were forwarded.

- ❖ Factors that creating variations in average GPAs across the departments and over years may be investigated.
- ❖ Causes for average GPAs increment between the regular and extension program graduates shall get attention to manage grade inflation ahead of time.
- ❖ Further study shall be carried out by using standardize test and curriculum to compare with graduates GPAs.
- ❖ Average GPAs of the graduates' analysis and the pattern of grading should be computed in every year to estimate the grading pattern of the students.
- ❖ Sufficient attention shall be given to the extension program graduates grade.
- ❖ Standardized college exit-exam should be prepared for graduates and then their GPAs shall be compared with the exit-exam to testify graduates real performance with their CGPAs.
- ❖ Grade analyses shall be done in specific courses to compare the distribution of letters grades such as A's, B's, C's and D's.

8.0 Conclusion

Eventually, the findings of this study concludes that grade inflation was not a serious issue between 2011 and 2015 among college graduates whereas average CGPAs was rising by 20% in the regular and 10 % the extension programs. Thus, the average CGPAs increment in the regular program was twofold of the extension graduates within five years. Moreover, there was some significant difference in average CGPAs between the regular and extension program graduates and across the departments.

REFERENCES

1. Apple, M. (2002). *A study of grade distribution and grade point average of the Tennessee Board of Regents Associate-Degree Nursing Program*
2. Babcock, P. (2009). *Real Cost of Normal Grade Inflation? New Evidence from Student Course Evaluations*. Department of Economics. University of California. Santa Barbara.4.
3. Chan, W., Hao, L., and Suen, W. (2005). *A signaling Theory of Grade Inflation*. Chinese University of Hong Kong.
4. Compton, D., and Metheny, B. (2000). *An assessment of grade inflation in higher education*. Perceptual and motor skills, 90, 527-536.9.
5. Ekstrom, R, B., and Villegas, A.M.(1994). *College Grades: An Exploratory Study of Policies and Practices*. New York College Board Repot. 94(1): 94-123.
6. Granberry, M.C and Stieglesr, K.A.(2003). *Documentation and analysis of Increased Grade point average at a College of Pharmacy over 20 years*. American Journal of Phrmaccutital Education, 67(3):77
7. Hu, S. (2005). Beyond Grade Inflation: Grading Problems in Higher education. ASHE-ERIC Higher Education Report, 30, 1-7, San Francisco: Jossey- Bass
8. Johnson, V. (2003). Grade inflation: A crisis in College Education. New York: Springer.
9. Kohn, A. (2002). The dangerous myth of grade inflation. Chronicle of Higher Education, 49911).
10. Koedel, C. (2011). Grading Standards in Education Departments at Universities. University of Missouri.
11. Kulick,G &Wright,R. (2008). The Impact of Grading on the Curve: A Simulation Analysis. International Journal for the Scholarship of Teaching and Learning, Vol. 2(5),1-17
12. Lawrence, C. (2006). Study of Grade point Averages for Juniors and Seniors. University of Kansas. http://www.GPA study Executive Summary_041906.
13. Matos-Diaz, H. (2014). Measuring grade inflation and grade divergence accounting for student quality. Cogent Economics and Finance, 2(1):1-16
14. O' Gray, M and Guify, M. (2007). Grade Inflation in Irish Universities. www.Stopgradeinflation.ie

15. Sadler,D. (2009). Grade integrity and the representation of academic achievement. *Studies in Higher Education*,34(7):807-826

16. Staples, B. (1998). Why Colleges Show Their Students with A's. *New York Times*, p.D16

17. Taylor, A.C (2007). Grade Inflation: An Analysis of Teacher Perception, Grade Point Average, and Test scores in one southeaster Georgia High School. Statesboro, Georgia, Unpublished PhD Dissertation.

18. Thompson, K.R.(2015). Analysis of Undergraduate Grade Trends at Brigham Young University Across a 20-Year Period Kirsten Rose Thompson Brigham Young University - Provo

19. Winzer, W. (2002). Grade Inflation: An Appraisal of The research. University of Lethbridge.<http://people.uleth.ca/~runte/inflation/Inflatednb.pdf>.

20. Ziomeck, R.L and Suec, J.C. (1995). High School Grading Achievement: Evidence of Grade Inflation (ACT Research Report Series 95-3). Iowa City, IA: ACT Program.