

Prediction Power of Diploma Value against Academic Achievement of Students on Health Polytechnic of Semarang

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ABSTRACT

In the field of education, there is a routine that occurs every new academic year, in which each university has a new student admission process with a different recruitment system. The Poltekkes of the Ministry of Health in Semarang conducted a screening of students from the Interest and Achievement Tracking (PMDP), Sipenmaru and Independent Pathways. In this recruitment system, a certificate, although it is used as a mandatory administrative requirement when registering, has not been fully utilized in an effort to predict student academic achievement. Actually, the value on a diploma can provide a more complete picture of a person's academic ability, because it is a reflection of the learning process that is followed during school because it is a combination of the average grades of grades 1, 2 and 3, school exam scores and national exam scores. The research objective was to analyze the effect of the average value of a diploma on the cumulative academic achievement index (GPA) of semester I-IV students at the Poltekkes Kemenkes Semarang. This type of research is research correlational and regression involving respondents from Diploma 3 (D3) and Diploma 4 (D4) students in odd and even semesters of the 2019/2020 Academic Year at the Poltekkes of the Ministry of Health in Semarang, batch 2019, 2018, 2017, and 2016. The data were collected using observation sheets and the collected data were processed using correlation analysis pearson product moment and linear regression to determine the relationship and influence of independent variables with the dependent variable. Results There is a significant influence on the average value of a diploma on the cumulative grade point average (GPA) of D3 and D4 students of the Health Polytechnic of the Ministry of Health Semarang in 2016, 2017, 2018, and 2019. It is proven that the results of the calculation of r_{xy} are greater than the r table both at the level of significant 5% and a significant level of 1%, with r count of

0.315 while r table of 0.20 and 0.40. and has a determination coefficient of 0.099. The effective contribution given by the variable the average value of the diploma to the cumulative grade point average (GPA) of D3 and D4 students in 2016, 2017, 2018, and 2019 was 9.9%. and 90.1% is influenced by other variables not examined. Suggestions for admission of Polkesmar students should consider taking from high school graduates with good average diploma scores. In addition to increasing the accreditation value of each D3 and D4 Study Program, as well as improving infrastructure both software and hardware, while still increasing the human resources of education practitioners, as well as all parties responsible for the implementation of education.

Keywords: Diploma 3 and Diploma 4 students, diploma scores, GPA

INTRODUCTION

In the field of education, there is a routine that occurs every new academic year, where at each university there is a process of admitting new students with a different recruitment system. Likewise in the Health Polytechnic of the Ministry of Health in Semarang, there have also been admissions of new students through several channels, including the Interest and Achievement Tracking (PMDP), the Sipunmaru and Independent Pathways. In the PMDP path selection, prospective students must meet certain requirements such as having a minimum score of 6 for all subjects and having a minimum score of 7 in English, Indonesian, Mathematics, Physics and Biology from semesters I to V. For the Sipunmaru and Independent Pathways, prospective students register with certain administrative requirements and then take a written exam. The results of this written exam really determine whether someone is accepted or not accepted as a student of the Poltekkes Kemenkes Semarang. If we look at the recruitment system in the Poltekkes of the Ministry of Health Semarang above, the value of a diploma can be seen, although it is used as an administrative requirement that students must fulfill when registering, it has not been taken into account in student admission. It is understandable that the value of the diploma has not been taken into account in the student admission of the Poltekkes of the Ministry of Health in Semarang, which is understandable considering the results of research conducted by Muyassaroh (2011) indicate that the National Examination (UN) score has no effect on the IAIN Biology Tadris IAIN Walisongo Walisongo Semarang student achievement index. The latest research conducted by Nuryadi (2014) also supports previous findings where the Madrasah (UN) final exam scores do not significantly influence the achievement of the 1st semester student grade 2012 achievement index. However, the value of a diploma provides a more complete picture of one's academic ability. because it is a reflection of the learning process that is followed during school or in other words the value of a diploma is a value that can reflect the ability of students in the academic field because this value is a combination of the average grades of grades 1, 2 and 3, school test scores and exam scores national (Utomo, 2013). This statement is supported by Lukiyadi (2006), where in his research in Pamekasan found that the STTB SD score contributed 29.78% to the student's achievement in semester 1 grade 1 junior high school and the STTB score was more effective as a predictor of student learning achievement at the junior high school level when compared to grades. EBTANAS. Research conducted at the University of 3 Education of Indonesia by Supriyatna (2009) also shows that the mean value of SMK report cards from quarterly 1 to 6, which is a selection tool for prospective new students of the PMDK pathway at FPTK UPI, can function as a predictor of student learning achievement. Based on the observations of both researchers through literature study, the effect of diploma scores on student achievement index has never been

studied in the Poltekkes Ministry of Health Semarang. Starting from this, researchers are interested in analyzing the effect of diploma value on academic achievement of students of the Poltekkes Kemenkes Semarang.

METHODOLOGY

This study uses a quantitative research design using regression analysis and correlation to predict the independent and dependent variables. Simple regression analysis and Pearson product moment correlation were used to determine the effect and relationship between one independent variable and the dependent variable (Notoatmodjo, 2010). The population of this study were all D3 and D4 students in the Poltekkes of the Ministry of Health in Semarang, even in the odd semester of the 2019/2020 academic year consisting of D3 and D4 Level I Class 2019, Level II Class 2018, Class III Class 2017, and Level III. IV batch 2016. The Sampling technique used is simple random sampling. Namely technique sampling where randomization is carried out by randomizing all study programs in the Polytechnic of the Ministry of Health Semarang (33 Study Programs) using the Excell® program or by lottery. The data were obtained by making a google survey form and posting to the What's App (WA) group on the sample unit subjects in 12 D3 and D4 study programs at the Health Polytechnic of the Ministry of Health Semarang which were used as the research sample. Collecting this data, the researcher is assisted by 12 enumerators in each D3 and D4 study program to compile the incoming data from students and validate it through the data base in the ADAK of each study program. This study took 6 (six) months, from July to December 2020. Data analysis in this study used preliminary analysis techniques, hypothesis testing analysis and further analysis. From the data obtained, then compare the r count with the r table in the table, both at the 5% significance level and the 1% significance level with probability; if r count $\geq r_t$ means the research is significant (H_a is accepted and H_0 is rejected), if r count $\leq r_t$ means the research is not significant, (H_a is rejected and H_0 is accepted).

RESULTS

Description of the Research Sample Study

The data collection was carried out in 12 programs in the Health Polytechnic of the Ministry of Health in Semarang, namely D III and D IV Nursing Study Programs in Semarang, D III and D IV Engineering Radiography and Radiotherapy Semarang, Prodi D III and D IV Nutrition Semarang, Prodi D III and D IV Midwifery Magelang, D III Nursing Study Program in Blora, D III Midwifery Study Program in Blora and D III and D IV Dental Study Program in Semarang. Data collection was carried out for six (6) weeks, from September 21, 2020 to October 30, 2020.

Student Qualification Based on Average Diploma Value

Table 1. Distribution of Average Diploma Value Intervals in Research Samples for D3 and D4 Polkesmar Study Programs

No	Interval	Frequency	Middle Value	%
1	3.76 – 4.00	409	3.88	21.91
2	3.63 – 3.75	300	3.69	16.07
3	3.50 – 3.62	299	3.56	16.01
4	3.37 – 3.49	212	3.43	11.36
5	3.24 – 3.36	253	3.30	13.55
6	3.11 – 3.23	189	3.17	10.12
7	2.25 – 3.10	205	2.68	10.98
Total		1867	-	100

Classification of Students based on Achievement Index Value

Table 2. Distribution of Average GPA in the research sample of D3 and D4 Polkesmar Study

Programs				
No	Interval	Frequency	Middle	%
1	3.76 – 4.00	306	3.88	16.39
2	3.63 – 3.75	290	3.69	15.53
3	3.50 – 3.62	277	3.56	14.84
4	3.37 – 3.49	228	3.43	12.12
5	3.24 – 3.36	235	3.30	12.59
6	3.11 – 3.23	229	3.17	12.27
7	2.25 – 3.10	302	2.68	16.18
Total		1867	-	100

Bivariate Analysis

The hypothesis that will be tested for truth is to determine whether there is a relationship between variable X (mean diploma value) and variable Y (Average cumulative grade point average (GPA)).

Table 3. Value of r product moment

N	Significant level	
	5%	1%
1867	0.062	0.081

From the results that have been obtained, consult the r table and the results are significant because the calculation of rxy produced a value greater than the r table with a significant level of 5% and a significant level of 1%, namely with an rxy value of 0.315 (there is a weak relationship) while the significant levels of 5% and 1% are 0.062 and 0.081 so it means that the hypothesis r count is accepted and significant, meaning that there is a significant correlation between the average value of a student's diploma to the cumulative grade point average (GPA) of D III and D IV Poltekkes Semarang. 2016, 2017, 2018 and 2019.

Table 4. Data interpretation "r" Product Moment

Magnitude Product Moment (r xy)	Interpretation
0.00-0.20	Very weak
0.20-0.40	Weak
0.40-0.70	Medium
0.70-0.90	Strong
0.90-1.00	Very strong

From the calculation of linear regression, it was found that the effect of variable X on variable Y was 0.315 with a significance of 0.000 (0.05), which means that the variable average diploma value had a weak effect (when referring to the Product Moment table) on the Grade Point Average of D3 and D4 Students of the Health Polytechnic of the Ministry of Health Semarang 2016, 2017, 2018, and 2019 significantly. From the regression analysis, it was also found that the influence between the dependent variable and the independent variable was 0.99, which means that the average value of the diploma influenced 9.9% of the grade point average and the rest was influenced by other factors that were not examined, such as the completeness of

the facilities and infrastructure for learning interest in learning. , learning environment, motivation, student activity.

DISCUSSION

From the calculation results, the regression equation for the average diploma value (x) and the student's cumulative grade point (y) is as follows:

Table 5. Regression Equation Coefficient between x and y

Variable	Beta (b)	Standard Error	Standard Beta	T	Sig
(Constant)	2.276	0.081		28.108	0.000
Average value of diploma	0.302	0.210	0.315	14.331	0.000

From the calculation results in the table above, the regression line equation $Y = 2.276 + 0.302X$. In the regression equation it can be seen based on the t statistical test analysis to prove whether the regression line equation coefficient contained in the variable mean diploma value (x) is acceptable. as a valid predictor to identify the symptoms that occur. It is known that the price of t is 14,331 with P value = 0.000 ($P < 0.025$). This indicates that the equation for the direction of the regression line can be used as a valid predictor to determine the effect of the average diploma score (x) and the student's cumulative grade point average (y). This regression equation also means that an increase in the average value of a diploma will increase student learning variation by 0.302 units with an intercept constant of 2.276. Thus the average value of the diploma can be used as a predictor in increasing the student's cumulative grade point average.

According to Klitgard in Nandan Supriatna (2009). Prediction effectiveness means that the selection results can predict student success in the future. In the short term, it means that students selected from the selection results with a good average diploma score will show good achievement, and can complete their education within the specified time. In the long term, this means that later college graduates will be able to work in society well. The magnitude of the influence between the dependent variable and the independent variable is equal to 0.99, which means that the average value of the diploma positively affects 9.9% of the grade point average. This positive and significant effect indicates that any increase or decrease in the average score of the diploma will be followed by an increase or decrease in the student's cumulative grade point score. This study supports the logical argument and correct ratio according to Nurhayati AR and Syahrizal (2016), that the flow of information received by students must be accompanied by adequate intelligence abilities in the form of a student's cumulative grade point index to be able to digest the meaning of this information properly.

Nurhayati AR and Syahrizal (2016) further argue that research has proven that the ability or level of intelligence in its development is influenced by educational and environmental factors, so that the ability or quality of student intelligence can be increased. The function of intellectual intelligence starts from the level of remembering, understanding, applying, analyzing, synthesizing to evaluating into a thought process that creates reasoning and high creativity from students.

In this research, the average value of a diploma has a linear relationship with the student's cumulative grade point average. This means that if the average diploma score is high, the student's cumulative grade point index will also be high. Vice versa, if the average value of a diploma is low, the cumulative grade point average of students is also low. This is in line with research conducted by Napiah (2014) at the Muhammadiyah University of Surakarta. However, the value of a diploma is not the only factor determining the level of GPA. This is evidenced by the results of a study by Ahmadi (2012) who found that learning facilities and student learning intensity affected learning achievement (Achievement Index) by 26.1%. In line with Ahmadi, Hidayati's research results (2012) also found that student creativity and activity in organizations influenced student academic achievement by 21.6%. According to research conducted by Wijayati (2012), variations in teaching styles and learning motivation affect student learning performance by 38%. And according to research by Dewi (2011) that the use of learning media and independent learning affects student learning achievement by 42.4%. The factors that affect learning achievement can be divided into two (Oemar Hamalik in Nurhayati AR and Syahrizal, 2016), namely internal factors and external factors. This factor can be divided into three parts, namely physical, psychological, and fatigue factors. In terms of learning, a student is not only required to study well, to repeat his lessons at home, but also needs to be supported by other means. Such as supplies for books, study desks, fulfillment of nutrition and others. The Limitations of Research researcher realizes that in this study there must be many obstacles and obstacles. The limitation experienced by researchers in this study is the distance between the D3 and D4 study programs in the Polkesmar environment which is the research sample unit. Not all D3 and D4 study programs can send the average data of diploma scores quickly, so they are constrained in compilation, data processing, analysis, and time constraints, where the team feels the time available for sampling is slow. Data collection is constrained in the Covid-19 pandemic situation, so it requires extra energy in health protocols.

CONCLUSION

There is a significant influence on the average value of a diploma on the cumulative grade point average (GPA) of D3 and D4 students of the Health Polytechnic of the Ministry of 9 Health in Semarang in 2016, 2017, 2018, and 2019. It is proven that the results of the calculation of r_{xy} are greater than the r table both at the level of significant 5% and a significant level of 1%, with r count of 0.315 while r table of 0.20 and 0.40 and have a coefficient of determination of 0.099. This means that if the average diploma score is high, then the cumulative grade point average (GPA) obtained by students tends to be high, conversely if the average diploma score is high, the cumulative grade point average (GPA) obtained by students tends to be high with a low diploma, then The cumulative grade point average (GPA) obtained by students tends to be low. The effective contribution given by the variable the average value of the diploma to the cumulative grade point average (GPA) of D3 and D4 students in 2016, 2017, 2018, and 2019 was 9.9%. and 90.1% is influenced by other variables not examined.

SUGGESTION

The results of this study are expected to provide a constructive contribution and be able to provide positive stimulation to the policies taken in an effort to improve the quality of student learning achievement, especially admissions Polkesmar students should consider taking from high school graduates with a good average diploma score. In addition to increasing the accreditation value of each D3 and D4 Study Program, as well as improving infrastructure both

software and hardware, while still increasing the human resources of education practitioners, as well as all parties responsible for the implementation of education.

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