

Factors of Performance of Secondary Schools in Science, Mathematics and English

Abstract

This sequential exploratory mixed methods research aimed to describe which among the demographics: school profile, teacher factor, student factor, learning resources and classroom management, management and governance, family background and parental involvement significantly influenced and predicted the performance of the secondary schools in Science, Mathematics and English in Davao del Sur Division and thereafter to develop empirical models. The instrument used was developed through the responses of the K11 informants, concepts of Creswell, and factor analyses. Using complete enumeration, the researcher selected 68 teachers and principals as respondents. Findings revealed that educational attainment, school based management, field of specialization significantly predicted competition; school type, teachers' attitude and motivation, class size were linked with NAT results in Science; school type, length of service, teachers' attitude and motivation, principal's projects and programs, and school size were associated with NAT results in Mathematics; school type, teachers' attitude and motivation, and classroom management positively correlated with NAT results in English; and school type, teacher's attitude and motivation, family background and parental involvement, and length of service significantly linked with NAT results in Science, Mathematics and English. The empirical models adopted were: (1) $Y_{\text{Competition}} = -5.028 + 2.472 * \text{Educational Attainment} + 1.514 * \text{School Based Management} - 1.531 * \text{Field of Specialization}$, (2) $Y_{\text{NATScience}} = 7.814 - 32.872 * \text{School Type} + 13.007 * \text{Teacher's Attitude and Motivation} + 14.318 * \text{Class Size}$, (3) $Y_{\text{NATMathematics}} = 74.026 - 28.828 * \text{School Type} + 5.381 * \text{Length of Service} + 9.523 * \text{Teacher's Attitude and Motivation} - 6.782 * \text{Principal's Projects and Programs} - 4.935 * \text{School Size}$, (4) $Y_{\text{NATEnglish}} = 52.674 - 18.505 * \text{School Type} + 11.362 * \text{Teacher's Attitude and Motivation} - 6.518 * \text{Classroom Management}$, and (5) $Y_{\text{NATAverage}} = 60.645 - 26.052 * \text{School Type} + 8.362 * \text{Teacher's Attitude and Motivation} - 4.902 * \text{Family Background and Parental Involvement} + 4.158 * \text{Length of Service}$.

KEYWORDS: Factors performance, Secondary Schools, Science, Mathematics, English

INTRODUCTION

One of the goals of Education for All was to improve the quality of education. It was set with a global challenge to transform the lives of millions of children, youth and adults around the world (Education International, 2008). Education for All was to bring benefit of education to "every citizen in every society," wherein national governments, civil society groups, and development agencies like UNESCO and the World Bank are part of the commitment. These goals also contribute to the global pursuit of the eight Millennium Development Goals (MDGs), especially on the universal primary education (United Nations, 2015) which may lead to MDG 1 on eradication of extreme poverty and hunger.

In 2000, the Philippines, as a reaffirmation of the vision set in the 1990 World Declaration, committed itself to the six EFA 2015 Goals at the World Education Forum in Dakar. One of its goals (Goal 6) is to

47 improve every aspect of the quality of education, and ensure their excellence so that recognized and
48 measurable learning outcomes are achieved by all, especially in literacy, numeracy and essential life
49 skills. This is congruent to the 1987 Philippine Constitution which likewise guarantees the right to
50 education of every Filipino. It provided that, "The State shall protect and promote the right of all citizens
51 to quality education at all levels and shall take appropriate steps to make education accessible to all."
52 (Philippine Education for All, 2015)

53
54 One indicator that a country has increased its quality of education is the increase of student and teacher
55 performances in school. School performance reflects 'the effectiveness and efficiency of the schooling
56 process.' Effectiveness, in a general sense, refers to the accomplishment of the school's objectives, while
57 efficiency indicates whether these objectives are accomplished in a timely and costly manner. As these
58 definitions show, effectiveness and efficiency are judged according to the school's 'objectives'. Although
59 these are school specific to some degree, school performance research focuses solely on objectives that
60 schools, or a distinct type of schools, have in common. Despite this specific focus, a number of
61 foundational studies have indicated that in several aspects measuring performance is multidimensional
62 (Maslowski, 2001). However, two important indicators of school performance that this study focuses
63 are: academic achievement of students and excellence in Science, Math and English competitions.

64
65 United Nations Educational, Scientific and Cultural Organization [UNESCO] (2005) identifies another
66 indicator of quality of education being provided is the cognitive achievement of learners. According to
67 Adediwura and Tayo (2007), academic achievement is designated by test and examination scores or
68 marks assigned by the subject teachers. It could also be said to be any expression used to represent
69 students' scholastic standing. Lewin, Wasanga and Somerset (2011) report that the academic
70 achievement of students at secondary school level is not only a pointer of the effectiveness of schools
71 but also a major determinant of the well-being of youths in particular and the nation in general. Yusuf
72 and Adigun (2010) and Lydiah and Nasongo (2009) note that the performance of students in any
73 academic task has always been of special interest to the government, educators, parents and society at
74 large.

75
76 Poor performance of students in the National Achievement Test (NAT) remains a serious concern of
77 teachers, curriculum developers, parents and the general public. NAT has always been the key priority
78 agenda of DepEd division, regional and central offices in the Philippines. The result of the test is
79 disclosed yearly for discussion in formulating mechanism for the improvement of this academic
80 achievement for the years to come. Aside from these, it measures the students' competencies in five
81 learning areas (i.e. Science, Mathematics, English, Filipino and Araling Panlipunan) administered to
82 determine the quality of education obtained by the students. Besides, it is also one of the indicators
83 used in the computation of the DepEd's performance-based bonus (DepEd Order 3, s. 2015). It indicates
84 that when students in a particular school attain high results in the NAT, there is a greater probability
85 that the teachers of the same school will receive greater amount of the performance-based bonus.

86
87 Available data show evidence that the 4th year Filipino students have difficulty in the major subjects (i.e.
88 Science, Mathematics, and English). The national performance of high school students in the NAT, which
89 was presented in tabular and graphical forms in Philippine Basic Education (2013), showed that on the
90 average, the fourth year students obtained a Mean Percentage Score (MPS) of 48.90 in the 2012 NAT, an
91 improved performance when compared with the previous years (44.33 in 2006 and 46.80 in 2005).
92 However, among the five learning areas, Science was the lowest with an MPS of 40.53 in 2012 NAT,
93 followed by Mathematics with an MPS of 46.37. It was sad to note that marks obtained by Filipino

94 learners in any of the learning areas, including critical thinking skill were far less than the passing mark
95 of 75%.

96
97 On one hand, Digos City National High School, one of the largest schools in Region XI, obtained an
98 overall mean rating of 59.90%, still not a passing mark, for School Year 2013-2014. For School Year 2014-
99 2015, on the other hand, Davao del Sur Division obtained an overall MPS of 54.87 for public schools only
100 and 53.59 for public schools with private schools. The twin goals of Mathematics curriculum in K to 12
101 are developing every learner the critical thinking and problem-solving skills. The MPS obtained by
102 students in critical thinking is 48.26 for public schools only while 48.17 for with private schools.

103
104 Studying various factors affecting school performance has been an interesting and challenging topic of
105 the local, national and international researchers. Some of these are teacher, school, and student factors,
106 teaching strategies of teachers and strategy and mechanism of the principal.

107
108 Over a period of time, it has been observed that students exposed to the same lessons by the same
109 teachers perform differently when they are evaluated (Adesehinwa, 2013). This shows that outside the
110 school environment, other factors influence students' academic performance. Also, differences in the
111 academic performances of gifted and non-gifted children cannot be traced to school environment
112 (Adesehinwa & Aremu, 2010). Hence, many other uncontrolled variables can be responsible for
113 academic performance of students generally, secondary school students inclusive. It was in this ground
114 that this study was conducted.

115
116 **Purpose of the Study**
117 The general objective of this study was to seek factors of performance of secondary public and private
118 schools. Specifically, it is aimed to:

- 119 1. Explore factors that are associated with the performance of secondary schools in Science,
120 Mathematics and English;
- 121 2. Describe the demographics, school profile, teacher factor, student factor, learning resources and
122 classroom management, management and governance, family background and parental
123 involvement, and performance of secondary schools in Science, Mathematics and English;
- 124 3. Describe which of the demographics, school profile, teacher factor, student factor, learning
125 resources and classroom management, management and governance, and family background and
126 parental involvement are significantly related to the performance of secondary schools in Science,
127 Mathematics and English;
- 128 4. Determine factors that significantly predict performance of secondary schools in Science,
129 Mathematics and English from demographics, school profile, teacher factor, student factor, learning
130 resources and classroom management, management and governance, and family background and
131 parental involvement; and
- 132 5. Develop empirical models illustrating functions of performance of secondary schools in Science,
133 Mathematics and English.

134
135 **Hypotheses**
136 H_{01} : There is no significant relationship between demographics, school profile, teacher factor, student
137 factor, learning resources and classroom management, management and governance, family
138 background and parental involvement and school performance in Science, Mathematics and English.

139
140 H_{02} : No factor significantly predicts the performance of secondary schools in Science, Mathematics and
141 English.

142 **Conceptual Framework**

143 The researcher used the following representation of a conceptual model. Two (2) variables are
144 illustrated in this framework, namely: the independent variables and the dependent variable. The
145 independent variables are teacher's demographics, school profile, student factor, teacher factor,
146 learning resources and classroom management, management and governance, and family background
147 and parental involvement while the dependent variable is the performance of secondary schools in
148 Science, Mathematics and English which is measured in terms of competitions, NAT rating in Science,
149 NAT Rating in Mathematics, NAT rating in English and average NAT rating in Science, Mathematics and
150 English.

151

152

153 **Theoretical Framework**

154 The theory anchored to this study is what [Green \(2000\)](#), [Snyder, Acker-Hocevar, and Snyder \(2000\)](#), and
155 [Huitt, Huitt, Monetti, and Hummel \(2009\)](#) have suggested in their research-based school improvement
156 efforts. It stated that there is a need to understand classrooms, schools, families, and communities as
157 systems. Attention must be paid to both developing well-functioning teams within schools (i. e.,
158 transformational leadership; [Chin, 2007](#)). Efforts at school reform that do not consider schools and
159 classrooms as systems may find that the system merely adapts to the intrusion by outside forces in
160 order to preserve the integrity of the teachers, classrooms, or schools that are the focus of change
161 ([Gustello & Liebovitch, 2009](#)).

162

163

164 **Scope and Delimitation**

165 This exploratory study was limited to the secondary public and private schools in Davao del Sur Division.
166 It explored the direct experiences of the teachers and principals in Davao del Sur in the determination of
167 factors of performance of secondary schools in Science, Mathematics and English. In addition, results of
168 the qualitative data were used in the formulation of the questionnaire. The questionnaire was used to
169 describe the teacher's demographics, school profile, teacher factor, student factor, learning resources
170 and classroom management, management and governance, family background and parental
171 involvement, and performance of secondary schools in Science, Mathematics and English. Furthermore,
172 the study described which of the demographics, school profile, teacher factor, student factor, learning
173 resources and classroom management, management and governance, and family background and
174 parental involvement significantly affected and predicted the performance of secondary schools in
175 Science, Mathematics and English. Finally, it develops empirical models illustrating functions of
176 performance of secondary schools in Science, Mathematics and English.

177

178

179 **METHOD**

180

181 **Research Design**

182 The Sequential Exploratory Mixed Methods Design was used which consisted of two distinct phases:
183 qualitative followed by quantitative. [Borrego, Douglas, and Amelink \(2009\)](#), [Creswell and Plano Clark \(2007\)](#)
184 [\(2007\)](#) elucidated that exploratory designs begin with a primary qualitative phase, and then the findings
185 are validated or otherwise informed by quantitative results. This approach is usually employed to
186 explore a phenomenon (Creswell, Plano Clark, et al., 2003) and to develop a standardized instrument in
187 a relatively unstudied area (Creswell and Plano Clark, op. cit.). The qualitative phase identifies important
188 variables to study quantitatively when the variables are unknown (Creswell, 2007; Creswell, et al., 2003).

189 In this study, the researcher developed an instrument of factors of performance of secondary schools in
190 Science, Mathematics and English as an intermediate step between the phase that was built on
191 qualitative results and was used in the subsequent quantitative data collection.
192

193 **Locale of the Study**

194 This study was conducted in Department of Education (DepEd)- Davao del Sur Division. This schools
195 division office is one of the DepEd's division in Davao region. Formerly, it has 23 districts but through RA
196 10360 "An Act Creating the Province of Davao Occidental known as the Charter of the Province of Davao
197 Occidental," which was approved on January 14, 2013 in Davao Occidental, is created and therefore
198 establish, maintain a separate school division in the province whose jurisdiction shall cover all the
199 municipalities of the new province as stated in RA 10360 sec 44a with nine districts in five municipalities,
200 leaving Davao del Sur division with 14 districts.
201
202

203 **Informants Selection and Sampling Procedure**

204 In qualitative phase, purposive sampling was used to determine the key informant interview (KII)
205 samples consisting of 20 informants composed of teachers and principals. Five from performing public
206 schools, five from performing private schools, five from non-performing public schools, and five from
207 non-performing private schools. The topmost performing public and private schools and bottommost
208 public and private schools were identified based on their average ratings in Science, Mathematics and
209 English in the NAT for the School Year 2014-2015. The informants were from Hagonoy National High
210 School, Sinawilan National High School, St. Therese School of Bansalan, and Holy Cross of Sulop, Inc.
211

212 In the quantitative phase, the respondents of this study were 150 secondary school principals and
213 Mathematics, Science, and English teachers regardless of year/grade level for Factor analysis procedure.
214 Lastly, the researcher used complete enumeration with a grand total 68 teachers and principals to
215 answer the remaining research questions.
216

217 **Research Instruments**

218 An interview guide and a survey questionnaire were used as instruments in this study. The former was
219 used for the qualitative phase and the latter was utilized for the quantitative phase. A set of guide
220 questions was made up of open-ended questions to explore the factors that were associated with the
221 performance of secondary schools in Science, Mathematics, and English. It included two (2) grand tour
222 questions with probing questions in each. On the other hand, the survey questionnaire contained four
223 (4) parts, namely: Part I – Teacher's Demographics, Part II – School Profile, Part III – Survey
224 Questionnaire on Factors of Performance of Secondary Schools in Science, Mathematics and English
225 (SQFPSSSME) which covered the five (5) emerging themes with their respective clustered themes, and
226 Part IV – School Performance.
227

228 **Data Collection Procedures**

229 Qualitative Phase. Data collection in the qualitative phase used the following 4-step procedure. First,
230 was formulation of guide questions. A set of guide questions was made up of open-ended questions to
231 explore the factors that are associated with the performance of secondary schools in Science,
232 Mathematics, and English. It contained two grand tour questions with probing questions in each.
233 Second, was the validation of the Key Informant Interview (KII) guide questions. The set of guide
234 questions was validated and enhanced by three content experts who have good background about the
235 performance of secondary schools. Third, was the pilot testing of KII. The guide questions were tried out
236 to three secondary school teachers who were not part of the group of KII informants. Lastly, was the

237 conduct of KII. The interviews were personally conducted by the researcher to four schools consisting 21
238 teachers and principals all in all as informants.

239

240 Quantitative Phase. Data collection in the quantitative phase used the following 5-step procedure:

241 Step 1: Creswell Analysis. The responses of informants during the KII were transcribed. The transcripts
242 were read several times. The significant statements were crafted from the transcripts. Each significant
243 statement was temporarily assigned to a cluster theme and subsequently to an emerging theme. All
244 significant statements with the same cluster and emerging themes were collated and were analyzed
245 through Creswell Analysis. Consequently, items were formulated using the organized significant
246 statements. Through this analysis, 128 item-survey questionnaire which was subjected to factor analysis
247 pertaining to the factors that are associated with the performance of secondary schools in Science,
248 Mathematics and English were articulated. A 5-point Likert-type scale was used for each statement,
249 namely: (5) very high, (4) high, (3) moderate, (2) low, and (1) very low. Step 2: Validation of the 128-
250 Item Survey Questionnaire. The items formulated were subjected for content validation by three (3)
251 experts in this field of focus. Step 3: Reliability Testing. These items were conducted to 20 respondents
252 of the same school, that is, Matan-ao National High School, Poblacion, Matan-ao, Davao del Sur. The
253 researcher used internal consistency reliability testing, where Cronbach's alpha was computed. The
254 responses were tallied, analyzed and interpreted for reliability testing using SPSS version 17.0. The
255 computed value of Cronbach's alpha was .910 which was described as excellent by George's and
256 Mallery's (2003) rule of thumb. Step 4: Factor Analysis. The same set of items which was conducted to
257 150 respondents was subjected to Factor analysis. This analysis validates the grouping of the identified
258 temporary cluster and emerging themes in the Creswell analysis. With this analysis, it was found that
259 there were five emerging themes that came out. These are student factors, teacher factors, learning
260 resources and classroom management, management and governance, and family background and
261 parental involvement. Additionally, out of 128 statements, only 105 were left which were grouped
262 accordingly by emerging and cluster themes. Step 5: Development of Research Instrument. The
263 instrument was developed by the researcher. It contained four parts, namely: Part I – Teacher's
264 Demographics, Part II – School Profile, Part III – Survey Questionnaire on Factors of Performance of
265 Secondary Schools in Science, Mathematics and English (SQFPSSSME) which covered the five (5)
266 emerging themes, and Part IV – School Performance. This research instrument was given to 68 main
267 respondents to answer the research problems as stated in the purpose of the study.

268

269

270 **RESULTS AND DISCUSSION**

271

272 **Factors that Influence the Performance of Secondary Schools in Science, Mathematics and English**

273 As the informants were interviewed about the factors of performance of secondary schools in Science,
274 Mathematics and English, there were two factors that surfaced, namely: teacher's demographics and
275 school profile, and five themes emerged, namely: teacher factor, student factor; learning resources and
276 classroom management, management and governance, family background and parental involvement.
277 Seven indicators were identified under the first factor, namely: sex, civil status, employment status,
278 length of service, educational attainment, vertical alignment and teaching in the field of specialization;
279 and three indicators under the second factor, namely: school size, class size and school type. On the
280 other hand, the five emerging themes had clustered themes in each. In the first emerging theme, four
281 clustered themes were determined, namely: teacher's expertise, teacher's attitude and motivation,
282 teacher's trainings and advancement and teacher's teaching strategies and methodology. In the second
283 theme, two clustered themes were identified, namely: student's behavior and student's performance.

284 Another two were determined under the third emerging theme, namely: learning resources
285 management and classroom management. For the fourth emerging theme, another three clustered
286 themes were identified, namely: principal's relationship to stakeholders, principal's projects and
287 programs, and **school-based** management. While for the fifth and last emerging theme, two themes
288 were conceptualized, namely: family background and parental involvement. Results in the qualitative
289 and quantitative aspects are discussed in the succeeding paragraphs.

290

291 **Teacher Demographics**

292 **Civil Status.** Students' success is greatly influenced by teachers' factors as to teaching. One of the
293 numbers of factors that has been found to be related to student's success is the teacher's civil status.
294 Teacher's status affects the student's productivity and performance in school.

295

296 *"It's hard for me that they started again from the basic but then there should be patience for as a
297 teacher and as a mother as well, I can feel that I am a mother and I want them to learn."* –KII2M

298

299 **Employment Status.** Teachers with high quality performance are more likely to have a stable job.
300 Teacher's performance is the basis for determining whether the teacher has done his/her part as a
301 teacher inside the classroom. Hence, if the teachers are not yet stable their performance is greatly
302 affected.

303

304 *"Our teachers here are having a two-year contract only because they are going to leave anyway. That is
305 why we let them sign to work for at least two years."* –KII21P

306

307 **Length of Service.** Teachers, who are experiencing a high quality of work life, are motivated to perform
308 at higher levels and are willing to stay with an organization. If teachers find satisfaction, teacher work
309 life would lead to greater stability. These factors influence teacher's performance and play a major role
310 in their decisions to switch schools or leave the teaching profession.

311

312 *"Obviously I am new, my experience I guess is not enough to share deeper understanding to my students
313 that's why I would suggest to have seminar every now and then specifically focusing on the content".—
314 KII10M*

315

316 **Education.** Student's academic achievement also depends on the teacher's experience and educational
317 qualifications. Teachers acquiring higher education allow themselves to grow and make sound of
318 educational improvements that address the achievement existing gaps. In order for a student to get
319 where they are now to where they need to be educationally, teachers with good qualifications should
320 always be present to ensure student learning outcomes.

321

322 *"So I believe Sir that those teachers who are academically successful in their background during their
323 College and Master's degree are somewhat can relay good and informative topics as well". –KII13S*

324

325 **Vertical Alignment.** Teaching and learning process would be worthwhile if teachers are passionate with
326 their work. Practicing one's acquired profession enables him/her to carry out the given tasks. With such,
327 teachers will not find difficulty to handle the class for they are trained and honed to perform what they
328 are expected to do. However, in some cases, there are problems in terms of vertical alignment.

328

329 *"Yes, whereas for example here in our school, just like me I am a Science teacher but I teach Aral Pan. I
330 must confess that sometimes there is bias because I prioritize to study Science than Aral Pan. So, the*

331 *most affected are the students. Yes, though we can't do anything about it because we lack teachers, we*
332 *have to fill in.” –KII6S*

333
334 **Field of Specialization.** As to field of specialization, transfer of knowledge is easy if teachers already
335 mastered their subject matter. With this, teachers are likely to use various teaching strategies and
336 techniques suitable to the level of learners. They can think of better activities that would motivate the
337 students to learn and develop their critical thinking. Through this, teachers are expected to provide a
338 work effort far beyond normal expectations to cater the individual needs of diverse students.

339
340 *“Yes, you are a Science Major so it is expected that you are also going to teach your own field”.—*
341 *KII6S*

342
343 **School Profile**

344 **Class Size.** Another factor that affects the school's performance is the school size. There is a difference
345 in handling the school in terms of the school size. The bigger the school the greater the responsibility of
346 the administrator assigned in the said school. On the other hand, if the school is small then the
347 administrator can manage well the school. In order to make sure learning and comprehension, class size
348 should be looked into to cater individual's needs and give sufficient attention for their wants.

349
350 *“It varies sir, there is 55 and 57 is the highest number and the least is 30 plus but the average is 40. The*
351 *lower the number, the more learning, the higher the number, the lesser the learning. You cannot expect*
352 *everyone to learn the topic.” – KII8P*

353
354 **School Type.** There are two types of school – the public school and the private school. The school type is
355 a factor in the school performance as to the teachers' and students' part.

356
357 *“The population is small that is why we could give sufficient attention to the students' needs.” –*
358 *KII3S*

359
360 **Teacher Factor**

361 The result of the quantitative research shows that there is a higher Level of agreement of teachers and
362 principals on teacher factors that are perceived to be associated with the performance of secondary
363 schools in Science, Mathematics and English. It only means that teacher factor can affect the
364 performance of the secondary schools.

365
366 **Teacher's Expertise.** When it comes to the teacher's expertise, it is proven in the study that it is also a
367 factor that affects the performance of the school. Thus, the expertise of teacher should be considered as
368 one of the teacher factors in terms of school performance in the three disciplines.

369
370 *“The knowledge that I have sir in which I have let them understood to the specific field that I am teaching*
371 *because it is not good that I am imparting the wrong knowledge. The students will always follow what*
372 *you have taught them.”-KII17M*

373
374 **Teacher's Attitude and Motivation.** The attitude and motivation of the teachers also matter in the
375 teaching-learning process because these two will affect the performance of the teachers in terms of

376 their teaching. If the teacher has a positive attitude towards the learning and welfare of the students
377 and the teacher also is well motivated then it reflects on how the students perform in the class. In
378 terms of the school's academic performance, teacher's attitude and motivation must be taken into
379 account. These two affects many of the issues surrounding the quality of teacher's work for the way
380 they perceive and handle the students' diversity matters a lot.

381

382 *"It is knowing the characteristic of being a facilitator. I have the 21st century skills in line with the*
383 *new enhancement program of the DepEd on the K to 12."*-KII14S

384

385 **Teacher's Trainings and Advancement.** In order for teachers to grow and cope with the latest trends
386 with regards to handling and catering student's hunger to be educated, they should first let themselves
387 to be fully equipped with it through participating trainings and advancement seminars.

388

389 *"In K to 12, they were able to attend K to 12 seminar. And so far it's good."* – KII9M

390

391 **Teacher's Teaching Strategies and Methodology.** Students learn best from the teacher they like. There
392 are certain subjects wherein the students find difficulty in learning. The teacher should be well-equipped
393 with teaching strategies and methodologies so that the students will not find the subject too dull and
394 boring. The teacher should find remedy of the certain dilemma, so that the students will be motivated
395 and will learn to love the subject no matter how difficult it is. Thus if there are problems that has been
396 encountered, there should always be quick solutions especially when the knowledge of the student is at
397 stake. On the other hand, the study also looks into the general perspective or the teaching approach of
398 the teachers toward the disciplines. It has a great impact in terms of performance of students. It was
399 well-observed in the teacher's responses. And so it is proved that teaching approach used by the
400 teachers inside the classroom setting greatly affects students' performance.

401

402 *"We also have remedial class we teach them. It is simple from the very basic we teach them from the*
403 *very basic A B C D then until they were able to read."*-KII16E

404

405 **Student Factor**

406 Students are the primary elements of learning. Teaching and learning would not be possible without
407 them for they are the focus of it.

408

409 **Students' Behavior.** Another factor that affects the performance of the students in school is the
410 students' behavior. Thus, students' behavior should be taken into account as to assessing student's
411 performance in school.

412

413 *"I think absenteeism, truancy. Because the influence of the mass media that we have right*
414 *now."* – KII11E

415 **Student's Performance.** As to factors influencing school's performance, there are so many aspects to
416 look into. Students are the primary element in the teaching and learning process. Their success and
417 development can be measured by their performance in any aspect in the process.

418

419 *"I find it hard to catch their attention especially in problem solving because they will not listen. It*
420 *is instilled in their minds that 'Mathematics is difficult and hard to understand'. They are not*
421 *interested because it is difficult, boring that's why they prefer to sleep".* – KII20M

422 **Learning Resources and Classroom Management**

423 The learning resources and management are considered as factors in the performance of the students
424 because the former serves as one of the sources of knowledge and the latter is the one that helps in
425 conveying the knowledge to the students.

426
427 **Learning Resources Management.** Learning resources is found to be one of the factors that affect the
428 performance of the school. The students learn better if they have it firsthand. If the school has complete
429 learning resources then the students also will have quality performance. Moreover, most students are
430 visual learners. Hence, they learn best when they can see the actual thing that the teacher is trying to
431 convey. To ensure better understanding and learning, it is essential that the facilities and equipment are
432 provided.

433
434 *“Although we are encouraged to use improvised materials in order for you to produce good quality
435 students then you can have quality transrecord. You should perform laboratory activities pertaining to
436 what is standard for them so if it is improvised, you can expect a product improvise pupil also”. – KII13S*

437
438 **Classroom Management.** The importance of classroom management is that learning will only take effect
439 if the teacher has the capacity and the ability to handle the class well. It means that the teacher is the
440 driving force when it comes to imparting the knowledge to the students. If the teacher has low
441 classroom management, then there is a tendency that the class will not learn from the teacher.

442
443 *“If you as a teacher, you don’t have classroom management, even if how knowledgeable you
444 are, still, you will not be effective to students. It is because if you do not have classroom
445 management, for example there is someone sleeping in your class, it is important to be with-it-
446 ness. It is a must that as a teacher, even if you are busy of what you are doing you knew also
447 what are your students doing. So that is very important that is part of classroom management.”*
448 *– KII4S*

449
450 **Management and Governance**

451 The management and governance should also be looked upon because it is important to see how the
452 higher authorities handle the school. The success of the school highly depends on how the
453 administration manages the certain institution. As the quantitative result showed that there is an
454 average level of agreement of teachers and principals on school based management that is perceived to
455 be associated with the performance of secondary schools in Science, Mathematics and English.

456
457 **Principal’s Relationship to and Among Stakeholders.** Stakeholders are the people or organizations who
458 have a great importance or influence in an educational institution. It is essential that schools must take
459 into consideration the stakeholders in order to get support from them. Therefore, schools need the help
460 or support from the stakeholders for them to be productive. Building a harmonious relationship among
461 stakeholders is very crucial since stakeholders are the receiver of the product of the schools. Hence, it is
462 good to take good care of the relationship that is already built. There should be equal effort between
463 the school and the stakeholders in order to maintain a lasting relationship.

464
465 *“So, I think that’s one thing that we need to support from the local government and also from
466 the national government and even to our stakeholders. We need to have support also coming
467 from the stakeholders the company especially in this science and mathematics programs so I*

468 *think that's the last I consider one of the factors that affect the performance of our students in*
469 *the three major areas, in English, science and mathematics.”-KII15P*

470 **Principal's Projects and Programs.** Teachers need not to be efficient but effective as well so it is
471 necessary for them to initiate projects/programs for students' benefits. Hence, teachers should also give
472 importance to the project/program that would give the students opportunity to gain education that
473 they ought to gain.

474
475 *“So, if there are also ways and different programs that can help the students, especially the availability*
476 *of the area. It is open so it can be used for practice in soccer. They can play or do anything that is related*
477 *to school or even trainings like symposium”. KII14S*

478 **School-Based Management.** The school principals have different ways in dealing with their teachers as
479 well as the way they handle their school. Thus, the strategies of the principal may vary but it is still for
480 the betterment of the performance of the school. Students do not only learn from school but also in
481 their home and community. Community as one of the students' learning environment, it must also be
482 healthy for it helps molding the students not just as a better person but in totality. Monitoring is one
483 way of looking into the smooth flow of the learning process, and it is observed in the responses of the
484 key informants. Thus, it is very essential to urge the teachers to be particular with their preparation in
485 teaching as to see the readiness and preparedness to cater the students' needs.

486
487 *“During the our meeting, in faculty meeting, I always remind the teachers follow-up the teachers how is*
488 *their teaching then I know, what happened to the teachings and then, evaluation during the meeting.*
489 *Then they share it to me, about the performance of the students. Then I observe different classrooms and*
490 *I observe the students their participative inside the classroom, then I observe the teachers how they*
491 *deliver their lessons then after the observation, if ever I have a comment from them so will...” – KII21P*

492 **Family Background and Parental Involvement**

493 The next emerging theme was the parent factor. The quantitative results stated that there was an
494 average level of agreement of teachers and principal on family background and parental involvement
495 that are perceived to be associated with the performance of secondary schools in Science, Mathematics
496 and English.

497
498 **Family Background.** The learner's family background should be properly checked so that the teachers
499 may be able to understand the student's performance. The financial status of the parents as part of the
500 family background must be monitored so that their children would not be at risk of being one of the
501 out of school youth as well as it would not be the hindrance with the learner's performance. For these
502 reasons, it is better to have a portfolio of students regarding their family background.

503
504 *“... most of the students are poor. Their parents are making for a living that is why they failed to*
505 *follow up the performance of their child.” – KII2M*

506 **Parent Involvement.** Parents' involvement is also a big factor in students' performance for the students
507 look up into them for support. Therefore, parents need to play their part as to give their students
508 proper education and guidance for them not to be tempted and focus on their studies. Moreover,
509 students' inspiration to go to school varies if they can feel the care and love of their parents. Therefore,
510 parents' attention is the utmost need of the students to pursue their studies for parents' support is still
511 the best way to show their care and love.

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“So, I could say that one factor is the parent. There are supportive parents but there are also who are not supportive that is why the students are really affected.”- KII1E

Teacher’s Demographics, School Profile, Teacher Factor, Student Factor, Learning Resources and Classroom Management, Management and Governance, Family Background and Parental Involvement, and Performance of Secondary Schools in Science, Mathematics and English

Teacher’s Demographics. The demographic profile of respondents includes gender, civil status, employment status, educational attainment, vertical alignment and field of specialization. It depicted that out of 68 respondents, 23 or 33.8% of the respondents are male and 45 or 66.2% are female; 27 or 39.7% of the respondents were single, 39 or 57.4% were married, and the other 2 or 3% were widow/er and separated; 54 or 79.4% were permanent, 10 or 14.7% were contractual, 4 or 5.9% were substitute and others; 40 or 58.8% of the respondents belong to 0 to 5 years, 13 or 19.1% belong to 6 to 10 years, and 15 or 22.1% belong to 11 years and above. Regarding their education, 43 or 63.2% were bachelor’s degree holders only, 23 or 33.8% were master’s degree holders and 2 or 2.9% were doctoral degree holders. Of those who acquired master’s or doctoral degree, only 15 or 22.1% were vertically aligned while 10 or 14.7% were not. Out of 68 respondents, 48 or 70.6% were teaching in their field of specialization while 20 or 29.4% were not.

School Profile. The school profile of the selected secondary schools included school size, average class size and school type. Of the respondents, only 4 or 5.9% belonged to large school with a student population of 1000 and above, 26 or 38.2% belonged to medium size schools while 38 or 55.9% belonged to small schools. Fifty-two, or 76.5%, respondents belong small class size with a range of 26 to 50 and 16 or 23.5% belonged to large class size with more than 50 students. Fifty-three, or 77.9%, of the respondents came from public while 15 or 22.1% belonged to private.

Teacher Factor. Teacher factors included teacher’s expertise, teacher’s attitude and motivation, teacher’s trainings and advancement, and teacher’s teaching strategies and methodology. It showed that the mean of teacher’s expertise is 4.22; teacher’s attitude and motivation, 4.37; teacher’s trainings and advancement, 4.39; and teacher’s teaching strategies and methodology, 4.17. All of these teacher factors had a descriptive equivalent of *agree*, which means that the statements under these factors were *often true* for the respondents. Similarly, teacher factor as a whole obtained a mean of 4.29, with a descriptive equivalent of *agree*. This means further that the statements are *often true* for the respondents.

Teacher’s Expertise. Ten statements are found under teacher’s expertise. It showed that the means of all statements under this cluster theme obtained a mean rating ranging from 3.50 to 4.49, which descriptive equivalent was *agree*. This means that the statements are *often true* for the respondents on the average.

Teacher’s Attitude and Motivation. Fifteen statements are under teacher’s attitude and motivation. It revealed that among the 15 statements, only three statements had a mean greater than 4.50, which were equivalent to *strongly agree*. This means that these statements, “Teachers are enthusiastic in the delivery of the daily lessons,” “Teachers are willing to be trained for their professional development,” and “Teachers feel fulfilled when their former students perform well in school” are *always or almost always true* for the respondents. On the other hand, other statements obtained means whose descriptive equivalents were *agree*. This means that these statements are *often true* for the

560 respondents. Teacher's attitude and motivation in general obtained a mean of 4.37 or *agree*. It means
561 that on the average, the statements are *often true* for the respondents.

562
563 **Teacher's Trainings and Advancement.** Three statements were under teacher's trainings and
564 advancement. It showed that among the statements, the statement "Teachers feel that attending
565 content-based and K to 12 trainings is a necessity" obtained a mean of 4.57 which was equivalent to
566 *strongly agree*. This means that that statement is *always or almost always true* for the respondents. On
567 the other hand, statements 2 and 3 obtained a mean of 4.12 and 4.49, respectively which were both
568 equivalent to *agree*. It means that the statements are *often true* for the respondents. Teacher's trainings
569 and advancement as a whole obtained a mean of 4.39 or *agree*. It further means that the statements on
570 the average are *often true* for the respondents.

571
572 **Teacher's Strategies and Methodology.** Fifteen statements fall under this cluster theme. All statements
573 had a mean within the range of 3.50 to 4.49, which was equivalent to *agree*. It means further that all
574 statements are *often true* for the respondents. Furthermore, the teacher's teaching strategies and
575 methodology had a mean of 4.17, which was equivalent to *agree*. It means that the statements of this
576 cluster theme are *often true* for the respondents.

577
578 **Student Factor.** Student factor included student's behavior and student's performance. It showed that
579 the student's behavior and student's performance obtained a mean of 2.93 and 3.20, respectively. Both
580 values had a descriptive equivalent of *moderately agree*. It means further that the statements under
581 these cluster themes are *sometimes true* for the respondents. Similarly, the student factor as a whole
582 obtains a mean of 3.07, which was equivalent to *moderately agree*. It means that the statements under
583 this emerging theme are *sometimes true* for the respondents.

584
585 **Student's Behavior.** Six statements are classified under student's behavior. It showed that all
586 statements had mean within the range of 2.50 to 3.49, which were equivalent to *moderately agree*. It
587 means that all of these statements are *sometimes true* for the respondents on the average. Similarly the
588 overall mean of student's behavior was 2.93 which was equivalent to *moderately agree*. It means the
589 statements in general are *sometimes true* for the respondents.

590
591 **Student's Performance.** Ten statements are identified under student's performance. It showed that all
592 statements had means which were within the range of 2.50 to 3.49. This statistics is equivalent to
593 *moderately agree*. It showed that the statements were *sometimes true* for the respondents in general.
594 Similarly, the overall mean of student's performance was 3.20 which was equivalent to *moderately*
595 *agree*. It means the statements in general are *sometimes true* for the respondents.

596
597 **Learning Resources and Classroom Management.** Learning resources and classroom management is
598 divided into two cluster themes, namely: learning resources management and classroom management.
599 These are discussed in the following paragraphs. It showed that learning resources management had a
600 mean of 3.65 while that of classroom management was 3.99. Both statistics were equivalent to *agree*. It
601 means that the statements under these cluster themes are *often true* for the respondents.

602
603 **Learning Resources Management.** Seven statements were classified under learning resources
604 management. It showed that statement 1 got the highest mean of 4.60 or *strongly agree*. It means that
605 the respondents in general strongly agree to the statement, "The school has convenient chairs in the
606 classroom." Equivalently, the statement was *always or almost always true* for the respondents.
607 Statements 2, 4 and 6 obtained mean score of 3.88, 3.70, and 3.94, respectively. All these statements

608 were equivalent to *agree*. It means that these statements are *often true* for the respondents. The overall
609 mean of learning resources management was 3.65 or *agree*. It means that on the average the
610 statements are *often true* for the respondents.

611
612 **Classroom Management.** Five statements are classified under classroom management. Results showed
613 that all statements had means within the range of 3.50 to 4.49, which were all described as *agree*. It
614 showed that the statements were all *often true* for the respondents. The overall mean of classroom
615 management was 3.99, which was equivalent to *agree*. It means that on the average, the statements are
616 *often true* for the respondents.

617
618 **Management and Governance.** Management and governance included principal's relationship to
619 stakeholders, principal's projects and programs, and school based management. It revealed that the
620 principal's relationships to stakeholders and principal's projects and programs had means of 4.13 and
621 3.86, respectively. These were equivalent to *agree*. It means the statements under these cluster themes
622 are *often true* for the respondents. On the other hand, school based management got a mean of 3.44,
623 which was equivalent to *moderately agree*. It means the statements under this cluster theme are
624 *sometimes true* for the respondents. The overall mean of management and governance was 3.81, which
625 was equivalent to *agree*. It means that on the average the statements are *often true* for the
626 respondents.

627
628 **Principal's Relationship to Stakeholders.** Six statements are under the cluster theme principal's
629 relationship to stakeholders. It depicts that the means of the statements were within the range of 3.50
630 to 4.49. These were described as *agree*. It means that all these statements are *often true* for the
631 respondents. The overall mean of principal's relationship to stakeholders was 4.14, which was
632 equivalent to *agree*. It means that on the average the statements are *often true* for the respondents.

633
634 **Principal's Projects and Programs.** Ten statements belong to principal's projects and programs. It
635 depicted that the means of the statements were within the range of 3.50 to 4.49. These were described
636 as *agree*. It means that all these statements are *often true* for the respondents. The overall mean of
637 principal's projects and programs was 3.86, which is equivalent to *agree*. It means that on the average
638 the statements are *often true* for the respondents.

639
640 **School Based Management.** Eight statements were under the cluster theme school based management.
641 It depicted that statements 1, 2, 4 7 and 8 had means within the range of 3.50 to 4.49. These were
642 described as *agree*. It means that these statements are *often true* for the respondents. Statements 3 and
643 6, on the other hand, had means within the range of 2.50 to 3.49. These were described as *moderately*
644 *agree*. It means that these statements are *sometimes true* for the respondents. Statement 5 obtained a
645 mean of 2.41, which was equivalent to *disagree*. It means that this statement is *rarely true* for the
646 respondents. The overall mean of school based management was 3.44, which was equivalent to
647 *moderately agree*. It means that on the average the statements are *sometimes true* for the respondents.

648
649 **Family Background and Parental Involvement.** The emerging theme family background and parental
650 involvement was divided into two cluster themes namely: family background and parental involvement.
651 It showed that family background had a mean of 3.54, which was described as *agree*. It means that the
652 statements under this cluster theme are *often true* for the respondents. On the other hand, parental
653 involvement obtained a mean of 3.35, which was described as *moderately agree*. It means that the
654 statements under this cluster theme were *sometimes true* for the respondents. The overall mean of

655 family background and parental involvement was 3.44, which was equivalent to *moderately agree*. It
656 means that on the average the statements are *sometimes true* for the respondents.

657
658 **Family Background.** Six statements are under the cluster theme family background. It depicts that
659 statements 1 to 4 have means within the range of 3.50 to 4.49. These were described as *agree*. It means
660 that these statements are *often true* for the respondents. Statements 5 and 6, on the other hand, had
661 means of 3.32 and 3.15, respectively. These were described as *moderately agree*. It means that these
662 statements are *sometimes true* for the respondents. The overall mean of family background is 3.54,
663 which was equivalent to *agree*. It means that on the average the statements of this theme are *often true*
664 for the respondents.

665 **Parental Involvement.** Four statements are under the cluster theme parental involvement. It depicted
666 that statement 3 had a mean of 3.57 which was described as *agree*. It means that the statement is *often*
667 *true* for the respondents. Statements 1, 2 and 4, on the other hand, had means within the range of 2.50
668 to 3.49. These were described as *moderately agree*. It means that these statements are *sometimes true*
669 for the respondents. The overall mean of parental involvement was 3.35, which is equivalent to
670 *moderately agree*. It means that on the average the statements of this theme are *sometimes true* for the
671 respondents.

672
673 **Performance of Secondary Schools in Science, Mathematics and English.** Performance of secondary
674 schools in Science, Mathematics and English included the excellence in competitions and the NAT
675 results. Each of these indicators was discussed in the succeeding paragraphs.

676
677 **Excellence in Competitions.** The results showed that 6 or 22.2% of Science teachers won in the
678 competitions while 21 or 77.8% did not; 8 or 44.4% of Mathematics teachers won in the competitions
679 while 10 or 55.6% did not; 7 or 36.8% of English teachers won in the competitions while 12 or 63.2% did
680 not; and 2 or 50% of the principals whose teachers won in the competition while 2 or 50% did not. On
681 the average, 23 or 33.8% won in the competition while 45 or 66.2% did not.

682
683 **NAT Results.** It showed that the mean percentage rating of NAT in Science among Science teachers is
684 56.57% with an average mastery level, in Mathematics among Mathematics teachers is 55.65% with an
685 average mastery level, in English among English teachers is 53.73% with an average mastery level, and in
686 average NAT results in Science, Mathematics and English is 55.32% with an average mastery level.

687
688 **Relationships among Teacher's Demographics, School Profile, Teacher Factor, Student Factor, Learning**
689 **Resources and Classroom Management, Management and Governance, and Family Background and**
690 **Parental Involvement on the Performance of Secondary Schools in Science, Mathematics and English**

691
692 **Teacher's Demographics.** Results revealed that marital status and length of service significantly linked
693 with NAT results in Science and in Mathematics. Moreover, employment status showed significant
694 relationship to NAT results in Science. Further, educational attainment and vertical alignment showed
695 relationship with competitions. However, sex and field of specialization, showed no significant
696 relationship with the performance of secondary schools in Science, Mathematics and English.

697
698 **School Profile.** Results showed that school size, class size, and school type **significantly influence** the
699 NAT results in Mathematics, in English and the average results.

700
701 **Teacher Factor.** Results showed that teachers' expertise had **no significant** relationship with the
702 performance of secondary schools in Science, Mathematics and English. On the other hand, teachers'

703 attitude and motivation and teacher factor had a significant relationship with NAT results in Science, in
704 Mathematics, in English. Likewise, there is a significant relationship between the teacher's trainings and
705 advancement and NAT results in Science while there is a significant relationship between the teachers'
706 teaching strategies and methodology with the NAT results in English.

707
708 **Student Factor.** All indicators, students' behavior, students' performance, and student factor showed no
709 significant with the performance of secondary schools in Science, Mathematics and English.

710
711 **Learning Resources and Classroom Management.** Results showed that there was a significant
712 relationship between the learning resources management and the competitions. In terms of classroom
713 management, it showed no significant relationship between the student factor and the performance of
714 secondary schools in Science, Mathematics and English while learning resources and classroom
715 management in general, showed a significant relationship with competitions.

716
717

718 **Management and Governance**

719 Results showed that there was a significant relationship between the principal's relationship to
720 stakeholders and the competitions, NAT results in Science, in Mathematics and average results. It also
721 showed that there is a significant relationship between the principal's projects and programs and school
722 based management with NAT results in English. Likewise, there is a significant relationship between the
723 management and governance and the competitions.

724

725 **Family Background and Parental Involvement**

726 Results revealed that family background and parental involvement had no significant relationship with
727 the performance of secondary schools in Science, Mathematics and English.

728

729 **Multiple Regression Analysis of the Predictor Variables on the Performance of Schools in Science, 730 Mathematics and English**

731

732 **Competitions.** The probability value of F statistic of 11.683 is .000, which is less than .05 level of
733 significance. Thus, the null hypothesis is rejected. This signifies that there is a significant relationship
734 between the set of independent variables (i.e. educational attainment, school-based management, and
735 field of specialization) and the dependent variable (competitions). Moreover, multiple R of .595 means
736 that there is a moderate correlation or substantial relationship of the predictor variables (i.e.
737 educational attainment, school-based management, and field of specialization) on competitions. $R^2 =$
738 .354 or 35.4% of the total variation in the competitions is explained by its linear function of educational
739 attainment, school-based management, and field of specialization. In other words, 64.6% of the entire
740 variation of competitions is not accounted to the variation of the educational attainment, school-based
741 management, and field of specialization. This suggests that there might be some other factors which
742 influence the competitions.

743

744 The unstandardized coefficients of educational attainment, school-based management, and field of
745 specialization obtain t-values with Sig. values of .000, .001, and .029. All Sig. values are less than .05 level
746 of significance. It denotes that the competition is significantly predicted by educational attainment,
747 school-based management, and field of specialization. Furthermore, the empirical model is $Y_{\text{Competition}} = -$
748 5.028 + 2.472*Educational Attainment + 1.514*School Based Management - 1.531*Field of
749 Specialization.

750

751 **NAT Rating in Science.** The probability value of F statistic of 29.726 is .000, which is less than .05 level of
752 significance. Thus, the null hypothesis is rejected. This signifies that there is a significant relationship
753 between the set of independent variables (i.e. school type, teacher's attitude and motivation, and class
754 size) and the dependent variable (NAT Rating in Science). Moreover, multiple R of .763 means that
755 there is a high correlation or marked relationship of the predictor variables (i.e. school type, teacher's
756 attitude and motivation, and class size) on the NAT Rating in Science. $R^2 = .582$ or 58.2% of the total
757 variation in the NAT rating in Science is explained by its linear function of school type, teacher's attitude
758 and motivation, and class size. In other words, 41.8% of the entire variation of NAT rating in Science is
759 not accounted to the variation of the school type, teacher's attitude and motivation, and class size. This
760 suggests that there might be some other factors which influence the NAT rating in Science. The
761 unstandardized coefficient of school type, teacher's attitude and motivation, and class size obtain t-
762 values with Sig. values of .000, .000, and .002. All Sig. values are less than .05 level of significance. It
763 denotes that the NAT rating in Science is significantly predicted by school type, teacher's attitude and
764 motivation, and class size. Furthermore, the empirical model is $Y_{\text{NATScience}} = 7.814 - 32.872 * \text{School Type} +$
765 $13.007 * \text{Teacher's Attitude and Motivation} + 14.318 * \text{Class Size}$.

766
767 **NAT Rating In Mathematics.** The probability value of F statistic of 20.288 is .000, which is less than .05
768 level of significance. Thus, the null hypothesis is rejected. This signifies that there is a significant
769 relationship between the set of independent variables (i.e. school type, length of service, teacher's
770 attitude and motivation, principal's projects and programs, and school size) and the dependent variable
771 (NAT Rating in Mathematics).

772
773 Moreover, multiple R of .788 means that there is a high correlation or marked relationship of the
774 predictor variables (i.e. school type, length of service, teacher's attitude and motivation, principal's
775 projects and programs, and school size) on the NAT Rating in Science. $R^2 = .621$ or 62.1% of the total
776 variation in the NAT rating in Mathematics is explained by its linear function of school type, length of
777 service, teacher's attitude and motivation, principal's projects and programs, and school size. In other
778 words, 37.9% of the entire variation of NAT rating in Mathematics is not accounted to the variation of
779 the school type, length of service, teacher's attitude and motivation, principal's projects and programs,
780 and school size. This suggests that there might be some other factors which influence the NAT rating in
781 Mathematics.

782
783 The unstandardized coefficient of school type, length of service, teacher's attitude and motivation,
784 principal's projects and programs, and school size obtain t-values with Sig. values of .000, .006, .002,
785 .007, and .037, respectively. All Sig. values are less than .05 level of significance. It denotes that the NAT
786 rating in Science is significantly predicted school type, length of service, teacher's attitude and
787 motivation, principal's projects and programs, and school size. Furthermore, the empirical model is
788 $Y_{\text{NATMathematics}} = 74.026 - 28.828 * \text{School Type} + 5.381 * \text{Length of Service} + 9.523 * \text{Teacher's Attitude and}$
789 $\text{Motivation} - 6.782 * \text{Principal's Projects and Programs} - 4.935 * \text{School Size}$.

790
791 **NAT Rating in English.** The probability value of F statistic of 21.532 is .000, which is less than .05 level of
792 significance. Thus, the null hypothesis is rejected. This signifies that there is a significant relationship
793 between the set of independent variables (i.e. school type, teacher's attitude and motivation, and
794 classroom management) and the dependent variable (NAT Rating in English).

795
796 Moreover, multiple R of .709 means that there is a high correlation or marked relationship of the
797 predictor variables (i.e. school type, teacher's attitude and motivation, and classroom management) on
798 the NAT Rating in English. $R^2 = .502$ or 50.2% of the total variation in the NAT rating in English is

799 explained by its linear function of school type, teacher's attitude and motivation, and classroom
800 management. In other words, 49.8% of the entire variation of NAT rating in English is not accounted to
801 the variation of the school type, teacher's attitude and motivation, and classroom management. This
802 suggests that there might be some other factors which influence the NAT rating in English.

803
804 The unstandardized coefficient of school type, teacher's attitude and motivation, and classroom
805 management obtained t-values with Sig. values of .000, .000, and .025, respectively. All Sig. values are
806 less than .05 level of significance. It denotes that the NAT rating in English is significantly predicted by
807 school type, teacher's attitude and motivation, and classroom management. Furthermore, the empirical
808 model is $Y_{\text{NATEnglish}} = 52.674 - 18.505 * \text{School Type} + 11.362 * \text{Teacher's Attitude and Motivation} -$
809 $6.518 * \text{Classroom Management}$.

810
811 **Average NAT Rating in Science, Mathematics and English.** The probability value of F statistic of 24.081
812 is .000, which is less than .05 level of significance. Thus, the null hypothesis is rejected. This signifies that
813 there is a significant relationship between the set of independent variables (i.e. school type, teacher's
814 attitude and motivation, family background and parental involvement, and length of service) and the
815 dependent variable (Average NAT Rating in Science, Mathematics and English). Moreover, multiple R of
816 .778 means that there is a high correlation or marked relationship of the predictor variables (i.e. school
817 type, teacher's attitude and motivation, family background and parental involvement, and length of
818 service) on the Average NAT Rating in Science, Mathematics and English. $R^2 = .605$ or 60.5% of the total
819 variation in the average NAT rating in Science, Mathematics and English is explained by its linear
820 function of school type, teacher's attitude and motivation, family background and parental involvement,
821 and length of service. In other words, 39.5% of the entire variation of average NAT rating in Science,
822 Mathematics and English is not accounted to the variation of the school type, teacher's attitude and
823 motivation, family background and parental involvement, and length of service. This suggests that there
824 might be some other factors which influence the average NAT rating in Science, Mathematics and
825 English.

826
827 The unstandardized coefficient of school type, teacher's attitude and motivation, family background and
828 parental involvement, and length of service obtain t-values with Sig. values of .000, .002, .019, and .031,
829 respectively. All Sig. values are less than .05 level of significance. It denotes that the average NAT rating
830 in Science, Mathematics and English is significantly predicted by school type, teacher's attitude and
831 motivation, family background and parental involvement, and length of service. Furthermore, the
832 empirical model is $Y_{\text{NATAverage}} = 60.645 - 26.052 * \text{School Type} + 8.362 * \text{Teacher's Attitude and Motivation}$
833 $- 4.902 * \text{Family Background and Parental Involvement} + 4.158 * \text{Length of Service}$.

834 835 **DISCUSSION**

836
837 **Teacher's Demographics.** The demographic profile of the teachers affects their performance in school. If
838 the teacher performs well in school then students also achieve a quality performance. [Kimani et al. \(2013\)](#)
839 [\(2013\)](#) that the teachers cannot be dissociated from the schools they teach and **the** academic results of
840 schools. It would therefore be logical to use standardized students' assessments results as the basis for
841 judging the performance of teachers. Based on the result, the population of the female teachers
842 dominated. It means that there are more female teachers than male. However, gender does not affect
843 the teacher's performance. This is supported by result of the study of [Kant \(2014\)](#) who states that there
844 is no significant difference between male and female secondary school teachers on role performance. In
845 the civil status, teachers who are married are more affectionate towards their students. The
846 employment status of the teachers is also a factor in their performance as [Darling-Hammond's \(2003\)](#)

847 supports the premise that teachers are motivated to perform at higher levels and are more willing to
848 stay with an organization if they are experiencing a high quality of work life.

849

850 **Employment Status.** The employment status of the teachers is also a factor in the school's performance
851 as Darling-Hammond's (2003) favors the premise that teachers are motivated to perform at higher levels
852 and are more willing to stay with an organization if they are experiencing a high quality of work life.
853 According to the informants, the stability of the teachers really affects their performance. When
854 teachers are stable, it would reflect on their performance. Moreover, in the result of the study, it is
855 evident that majority of the respondents have permanent employment status. Although there are
856 contractual, substitute, and other forms of employment but so far there is no problem that emerged in
857 this certain aspect of the teachers. The administration and the teachers were able to come up with their
858 consensus in terms of their employment status.

859

860 **Length of Service.** Length of service is the period wherein the teachers are exposed in teaching.
861 Khurshid, Fauzia et al. (2012) found that there is a positive relationship between teachers' self-efficacy
862 and their job performance. In this study, the majority of the respondents and informants belong to the
863 0-5 years of experience in teaching while only few from 6-10 years and as well as in the 11 years above.
864 According to Kant (2014), the role performance of secondary school teachers did reveal significant
865 positive relationship with their teaching experience. This is also true to the result of this study. As the
866 informants revealed that the longer the experience they have in the field of teaching, the more effective
867 they are in terms of their performance. Further, teachers who belonged to the 0-5years of experience
868 stated that they are challenged to perform better.

869

870 **Educational Attainment.** The educational attainment of the teacher is also vital in their performance. In
871 the study of Rivkin et al. (2005), they stated that we do not focus solely on measurable characteristics of
872 teachers or schools as is typically done in this literature but instead rely on student outcomes to assess
873 the magnitude of total teacher effects, regardless of our ability to identify and measure any specific
874 components. This semi-parametric approach provides both an estimate of the role of teacher quality in
875 the determination of academic achievement and information on the degree to which specific factors
876 often used in determining compensation and hiring explain differences in teacher effectiveness.
877 However, according to Kant (2014), there is significant positive relationship between role performance
878 and educational qualification of secondary school teachers. It means role performance of secondary
879 school teachers did reveal significant positive relationship with their educational qualification. The
880 results of this study confirmed that of Kant. Although it appears that the number of the respondents
881 that get high response is teachers who have Bachelor's degrees but it can also be observed that the
882 numbers who have Master's degrees is not quite far from that result. Informants also affirm that their
883 performance in school is affected by their educational qualification. They further state that the higher
884 the education they have achieved, the more knowledgeable they are in their field of expertise and the
885 more competent they are in their performance. Additionally, they also reveal that there are so many
886 things that they will learn in their graduate studies that they could readily share to the students.

887

888 **Vertical Alignment.** In the field of teaching especially in the K – 12 curriculum, it is important that the
889 subject taught or assigned to the teacher is aligned with the course the teacher took up. Informants
890 stated that *you cannot give what you do not have*. Further, this statement is strengthened by another
891 informant who states that it is not effective if the teacher is forced to teach the subject which is not his
892 field of expertise. Additionally, the informants also shared that they were forced to teach the said
893 subject due to the lack of teachers. Though they said that they also tried their best to perform well but
894 it was a struggle for them. They could not focus on the said subject. The quantitative result reveals that

895 majority of the respondents are vertically aligned with their course. It means that it is very important
896 that teachers should teach in their field of expertise.

897

898 **Field of Specialization.** The teachers could perform well if the subject that they are handling is their field
899 of specialization. It is easy for them to convey the teaching since it is their field of expertise as the
900 informant had stated. Furthermore, the informants said that they could freely think of activities that
901 best suit the topic because they are well-versed with the subject. The result of this study is not alarming
902 because it is manifested that most of the teachers fall in their field of expertise.

903

904 **School Profile.** School profile is also a factor in the school performance. As the informants said that they
905 are more likely to belong in a small school because in the small school they do not have difficulty in
906 dealing with their administrator, co-teachers and also the students. In big schools, the teachers and
907 administrators usually have difficulties in resolving issues that arise.

908

909 **Class Size.** Class size also matters in the performance of the school. According to [Yelkpiieri et al. \(2012\)](#)
910 that some of the key findings of the study are that lecturers disagreed with the view that large class size
911 affects the quality of teaching. In addition, they also disagreed with the assertion that large class size
912 makes assessment of students difficult. The students, on the other hand, agreed that large class size
913 does not afford lecturers an opportunity to pay attention to weaker students and do remedial teachings.
914 However, based on the result of this study, class size really matters in terms of conveying the lesson to
915 the students. Further, according to the informants that the higher the number of students, the lesser
916 the learning and the lower the number of students, the higher the learning. Additionally, they state that
917 when the number of students in the classroom is lesser, it is manageable and learning is very evident.
918 Hence, this study affirms [Yelkpiieri et al. \(2012\)](#) when the students agreed that large class size does not
919 afford lecturers an opportunity to pay attention to weaker students and do remedial teachings. It is
920 further supported by [Graue et al. \(2009\)](#) who state that they present multiple vignettes to illustrate that
921 class size reduction provides opportunities that can be activated by organizing and implementing high-
922 quality classroom practices.

923 **School Type.** There are two types of school included in this study, the public and the private school. The
924 informants said that there is a difference in terms of the performance of the students. They said that in
925 private schools, they can concentrate and focus on their students because of a smaller population unlike
926 in public schools wherein the population is at the maximum classroom requirements or even beyond the
927 number of students.

928 **Teacher Factor.** Teachers are one of the main ingredients in learning. They are the purveyor of
929 knowledge to the students. [Kimani et al. \(2013\)](#) have cited the following: [Rivkin, Hanusheck and Kain \(2005\)](#),
930 there have never been a consensus on the specific teacher factors that influence students'
931 academic achievement. [Akiri and Ugborugbo \(2008\)](#) found that there was a significant relationship
932 between teachers' gender and students' academic achievement. This is contrary to [Dee as cited in Akiri
933 and Ugborugbo \(2008\)](#). [Yala and Wanjohi \(2011\)](#) and [Adeyemi \(2010\)](#) found that teachers' experience
934 and educational qualifications were the prime predictors of students' academic achievement. However,
935 [Ravkin et al. \(2005\)](#) found that teachers' teaching experience and educational qualifications were not
936 significantly related to students' achievement.

937

938 **Teacher's Expertise.** Teachers are conveyors of knowledge. They are responsible from the theory to the
939 applications of the learning of the students. [Kant \(2014\)](#) shows that there is significant positive
940 relationship between role performance and teaching experience of Secondary School Teachers. This

941 means role performance of secondary school teachers does reveal significant positive relationship with
942 their teaching experience. Kant further states that more experienced teachers have better role
943 performance than less experienced. Based on the result of this study, the informants stated that
944 teachers should have enough knowledge to execute something. This also means that the need for the
945 teachers to be expert in the subject matter is often true.

946 **Teacher's Attitude and Motivation.** The students become highly motivated and eager to learn if they
947 see that teachers also are willing to impart their knowledge to them. In the study of **Bahamonde-**
948 **Gunnell (2000)**, he found that teachers who were satisfied with their jobs had more positive views about
949 school climate than those who were not satisfied. It was supported by **Kameshwar (2012)** in which he
950 found out that the attitude of secondary school teachers are more stable and reliable than the primary
951 and higher secondary school teachers and college teachers. Furthermore, according to **Wirth & Perkins**
952 **(2013)** indicated that teacher's attitude contributed significantly to student attention in classrooms.

953 **Teacher's Attitude and Motivation.** **Mustafa and Othman (2010)** examined the perceptions of high
954 school teachers about the effects of motivation on their performance at work. They found that there is a
955 positive relation between motivation and working performance of teachers, i.e., the greater the level of
956 motivation the higher is the teacher's job performance or if provide a high level of motivation to a
957 teachers then their job performance will be increased. This study affirms the above statement.
958 Informants have said that they are true to their commitment and when it comes to teaching, they are
959 fully energetic, dynamic and full of enthusiasm.

960
961 **Teacher's Trainings and Advancement.** Teachers are like pencils. They need to be sharpened from time
962 to time in order to get a better output. **Kant (2014)** states that those teachers who are more qualified
963 show more positive relationship because more teachers gain knowledge more they show responsibility
964 towards their profession. The result of this study also tells the same. The informants said that they have
965 attended seminars especially in preparation for the K-12 curriculum.

966 **Teacher's Teaching Strategies and Methodology.** The teaching strategies and methodology are the two
967 factors that highly influence learning. **Knobloch (2003)** states that making a difference to students'
968 learning may be linked to effective teaching. Additionally, **Aguele (2004)** states that the supervision of
969 students' activities has large impact on their overall acquisition and improvement of basic skills. Further,
970 **Chang (2010)** adds that researchers have classified teaching styles in many ways and have considered
971 certain teaching styles more effective in improving student learning. Based on the result of this study,
972 teachers have different ways in their teaching strategies depending on the situation they are in or the
973 students they have. Some informants said that they do have remedial classes, integrating the lesson in
974 the real life situation and even performing the application of the theories and etc. they further said that
975 students easily get bored if there is just one strategy that the teacher has to use. Thus, the quantitative
976 analysis revealed that there is a higher level of agreement of teachers and principals on teacher's
977 teaching strategies and methodology that are perceived to be associated with the performance of
978 secondary schools in Science, Mathematics and English.

979 **Student Factor.** In the teaching learning process, the student factor is also observed. The result shows
980 that student has a higher impact in the teaching-learning process.

981
982 **Student's Behavior.** The quantity of the knowledge that the students have gained depends on their
983 behavior in the class. **Flynt (2008)** reveals that students who exhibit more off task behaviors are seen as
984 being more hostile and requiring more attention. He also adds that students who exhibit positive
985 behaviors generally have higher reading and math achievement scores than students who are perceived

986 as exhibiting negative behaviors such as hostility or dependence. Based on the result of the study, the
987 informants state that there are many factors that affect the students' behavior inside the class. They
988 further say that nowadays, there are so many diversions that possibly affect the students' behavior like
989 the mass media, computer games, peer influence, escaping from classes, chitchatting with friends while
990 the class is ongoing.

991 **Student's Performance.** Akey (2006) states learning involves individual cognitive and emotional
992 processes, student motivation is also significantly influenced by a supportive network of relationships.
993 The likelihood that students get motivated and engaged in school is increased to the extent that they
994 perceive their teachers, family, and friends as supportive. Further, based on her finding prior
995 achievement is also significantly related to perceived competence, suggesting that students who do well
996 on reading and mathematics assessment tests then perceive themselves as able learners, which
997 promotes more reading and mathematics success. This study also affirms the said finding. The
998 informants state that students are matured enough, participative and they know how to communicate
999 well with their teachers. It is strengthened with the quantitative result which shows that there is a high
1000 response in terms of the students' performance in school.

1001 **Learning Resources and Classroom Management**

1002 **Learning Resources Management.** Learning resources management is very essential in measuring the
1003 school's performance. According to Sood (2000), at a bare minimum level, schooling would require a
1004 building; some provisions for seating children, drinking water, and sanitation facilities, teaching material;
1005 teachers and provision for upgrading skills of teachers. Lack of any of these would find the schooling
1006 experience ineffective. Moreover, Idowu (2012) observes that if all the resources allocated to the
1007 schools are prudently managed, it would lead to school efficiency in terms of good student learning
1008 outcomes. Based on the result of the study, the informants said that the learning resources should be
1009 looked into if the school aims to have a quality education. They also state that if the school could not
1010 provide the learning materials then the teacher must learn to improvise in order to have an effective
1011 output. Further, they also reveal that their school is being sponsored by private people who extend their
1012 hands by donating learning resources like televisions and projectors.

1013
1014 **Classroom Management.** The effectiveness of teaching-learning process also depends on the classroom
1015 management. The comfort the students inside the class, the proper ventilation, the instructional
1016 materials are part of the classroom management. In order to have a quality output, these things should
1017 be properly observed. Based on the study, the classroom management gets only an average score.
1018 Based from the study of Jalali et al. (2014), as cited from Everstone and Weinstein (2006) classroom
1019 management can be defined as "the actions teachers take to create an environment that supports and
1020 facilitates both academic and social emotional learning."

1021 **Management and Governance.** The success of the educational process also depends on how the
1022 administration handles the school. As the quantitative result showed that there is an average level of
1023 agreement of teachers and principals on school based management that is perceived to be associated
1024 with the performance of secondary schools in Science, Mathematics and English.

1025
1026 **Relationship to and Among Stakeholders.** There should be harmonious relationship among
1027 stakeholders because they are the recipient of the product of the school. As the informants says that the
1028 good relationship towards the stakeholders should be maintained.

1029 **Principal's Projects and Programs.** The school principal has projects for the welfare of the school, the
1030 community, the faculty and most especially the students. According to the informants, there are

1031 programs from their principal like feeding for those students who are less fortunate so that they could
1032 focus on their studies. They also add that there are also trainings and seminars for the teachers for their
1033 professional growth. Moreover, the parents are also given seminars.

1034 **School Based Management.** Chika and Ebele (2008) emphasize that principals play their instructional
1035 leadership roles to high extent and these roles affect the work performance of their teachers. This study
1036 affirms the said statement. Informants say that their principals have different ways in handling them.
1037 There are principals who have programs like adopt-a-student program wherein the less fortunate
1038 students or poor but deserving students will be adopted by the teachers. Further, there are also
1039 principals who observe classes regularly despite their hectic schedules and they are also given advice on
1040 what to do with their subjects.

1041
1042 **Family Background and Parental Involvement.** Ademola and Olajumoke(2009) as cited from (Gianzero,
1043 2001) mention that by encouraging their children and assisting on homework, parents can set example
1044 for their child, which is powerful and positive. Utah Education Association (2008) asserts that when
1045 parents are involved in their children’s education at home, they do better in schools. Conway and
1046 Houtenwille (2008) also discover that parental involvement has a strong positive effect on student
1047 achievement. The results of the Ademola and Olajumoke (2009) study imply that parental involvement
1048 is important in enhancing pupils’ achievement in Mathematics and Science. It concludes that the higher
1049 the parental involvement, the higher the achievement in Science and Mathematics.

1050
1051 **Family Background.** Additionally, family background could also affect the performance of the students
1052 in school. As to the result of this study, informants say that poverty is one of the factors that hinders the
1053 focus of the students towards their studies.

1054 **Parental Involvement.** It is assumed that academic achievement of students may not only depend on
1055 the quality of schools and the teachers, rather the extent of parental involvement has vital role to play
1056 in academic achievement of their kids (Rafiq et al. 2013). They further state that parental involvement in
1057 school has been linked with academic achievement. Although little research has been done in the area
1058 of parental involvement and secondary school students, the literature review examines the many
1059 factors that may contribute to the level of parental involvement and academic achievement in
1060 secondary school. As cited by Rafiq et. al (2013) from Henderson and Mapp (2002) they state that
1061 parents play a crucial role in both the home and school environments. In general, parental involvement
1062 is associated with children’s higher achievements in language and mathematics, enrolment in more
1063 challenging programs, greater academic persistence, better behavior, better social skills and adaptation
1064 to school, better attendance and lower drop-out rates. The result of the study affirms the statements
1065 above. Based from the informants’ responses, they explain that those students who are well supported
1066 by their parents have the high motivation in going to school.

1067 **CONCLUSIONS/IMPLICATIONS**

1069 Based on the significant findings of the study, the following conclusions are drawn. The null hypotheses
1070 are rejected on the following grounds:

1071
1072 On demographics, educational attainment and vertical alignment have significant influence on
1073 competitions; marital status, employment status and length of service on NAT results in Science; marital
1074 status and length of service on NAT results in Mathematics; and marital status and length of service on
1075 average NAT result. It implies that if a teacher desires to win in competitions, he has to go to school for
1076 master’s degree or doctoral degree in line with his major in bachelor’s degree.

1077
1078 On school factor, school type has a significant influence on NAT results in Science; school size, class size
1079 and school type on NAT results in Mathematics; school size on NAT results in English; and school size,
1080 class size and school type on average results. It implies that the school size and class size matter in the
1081 NAT results.

1082
1083 On teacher factor, teacher's attitude and motivation, teacher's trainings and advancement, and teacher
1084 factor as a whole have significant influence on NAT results in Science; teacher's attitude and motivation
1085 and teacher factor as a whole on NAT results in Mathematics; teacher's attitude and motivation,
1086 teacher's teaching strategies and methodology, and teacher factor as a whole on NAT results in English;
1087 teacher's attitude and motivation on average NAT results.

1088
1089 Learning resources and classroom management significantly influence competitions. It implies that if a
1090 principal wants to have achievements in competitions he has to work on the facilities of the school such
1091 as providing convenient chairs, proper ventilation, instructional materials (i.e. litmus paper, chemicals,
1092 graphing boards, etc.), sufficient classrooms with audio-visual materials (i.e. TV set, LCD projector, etc.).
1093 On the other hand, if the teacher wants to win competitions, he must have a good classroom
1094 management, that is, he strictly implements rules and regulations inside the classroom, provides
1095 activities during ICL time, reprimands students lightly and has a portfolio of students which is used to
1096 address individual differences.

1097
1098 On management and governance, principal's relationship to stakeholders and management and
1099 governance as a whole significantly influence competitions; principal's relationship to stakeholders on
1100 NAT results in Science, in Mathematics and in average results; and principal's projects and programs and
1101 school based management on NAT results in English. It implies that if the principal aims to win
1102 competitions, he has to work on the harmonious relationship among stakeholders. If he desires better
1103 NAT results he has to organize different programs and projects for the benefit of the students,
1104 transparent to the appropriation and liquidation of the school's MOOE, strictly monitors the absences
1105 and tardiness of the teachers, initiates the conduct of NAT and observe classes together with the master
1106 teacher/department head.

1107
1108 **RECOMMENDATIONS**

1109 Based on the foregoing results and conclusions, the following are recommended:

1110
1111 Principals in **Davao del Sur Division** should revisit the class scheduling and teaching loads of teachers to
1112 increase the number of classes that reduces the number of students in every class, should allocate funds
1113 from MOOE for sending teachers to trainings and for instructional materials, should encourage teachers
1114 to enroll in master's degree in line with their major in their bachelor's, and should plan for activities that
1115 establish harmonious relationship among teachers and other stakeholders such as team building
1116 activities.

1117
1118 The **Davao del Sur Division Office** must initiate monitoring of the maintenance of school facilities and
1119 must provide appropriation to building new classrooms, better facilities, better library materials,
1120 equipped science and computer laboratories in every school.

1121
1122 Supervisor and principal/head teachers of **Davao del Sur Division** should have a close monitoring
1123 regarding tardiness and absences of teachers.

1124

1125 **Davao del Sur Division Office** should organize and facilitate trainings and seminar-workshop for teachers
1126 relative to teaching strategies, methodology and classroom management.
1127
1128 Teachers of **Davao del Sur Division** must be resourceful enough to look for reference books and the
1129 improvisation of the materials to be used in the class instruction.
1130
1131 The Principals of **Davao del Sur Division** in coordination with the PTA should strengthen school projects
1132 and programs particularly those that facilitate the delivery of instruction.
1133
1134 **Future researcher may embark on the factors affecting the performance of elementary schools in**
1135 **Science, Mathematics and English.**
1136

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