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RESEARCH ARTICLE

PROFESSIONAL LEARNING COMMUNITIES IN RELATION TO TEACHERS' EFFICACY AND STUDENTS' ACHIEVEMENT.

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Abstract

This study aimed to determine the relationship between professional learning communities and teachers' efficacy and students' performance. It employed the descriptive survey method of research. A total of 564 secondary school teachers in a certain school in Laguna Philippines from twelve public secondary schools were selected using stratified random sampling technique. A valid two-part survey questionnaire was utilized as instrument in gathering data needed for the study. Respondents assessed professional learning communities in terms of critical elements, human resources and structural conditions. Teachers' efficacy was measured in terms of continuous improvement program, gender and development, small learning action cell session and learning action cell session while student achievement was measured in terms of their mean percentage scores in the quarterly test. Tests of correlation showed that professional learning communities and teachers' efficacy exhibited no significant correlation. A significant relationship was observed between professional learning communities and students' academic achievement as well as between teachers' efficacy and students' achievement.

Introduction:-

The concept of a professional learning community (PLC) is based on a premise from the business sector regarding the capacity of organizations to learn. Modified to fit the world of education, the concept of a learning organization became that of a learning community that would strive to develop collaborative work cultures for teachers (Thompson, et al., 2004). Learning communities are grounded in two assumptions. First, it is assumed that knowledge is situated in the day-to-day lived experiences of teachers and best understood through critical reflection with others who share the same experience (Buysee, et al., 2003). Second, it is assumed that actively engaging teachers in PLCs increase their professional knowledge and enhance student learning.

Vescio, et al. (2007) shared Neuman et al. descriptions of five essential characteristics of PLCs as follows: first, shared values and norms must be developed with regard to such issues as the group's collective "views about children's ability to learn, school priorities for the use of time and space, and the roles of parents, teachers, administrators". A second essential characteristic is a clear and consistent focus on student learning. DuFour (2004) reiterates this notion when he writes that the mission "is not simply to ensure that students are taught but to ensure that they learn. This simple shift-from a focus on teaching to a focus on learning-has profound implications". The

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third characteristic is the reflective dialogue that leads to "extensive and continuing conversations among teachers about curriculum, instruction, and student development". De-privatizing practice to make teaching public and focusing on collaboration are the last two characteristics of a PLC.

The paradigm shift mentioned by Vescio et al. with regards to professional development of teachers is the scenario of the contemporary situation in Philippine education. The gigantic leap of the education system towards the implementation of K to 12 Enhanced Basic Education Curriculum changed the school climate and eventually put the professional learning communities to work on hard to defuel the complications with high accountability in teaching and learning efficacies. In line with the implementation of the K to 12 Program, the Department of Education (DepEd) has issued a policy on Learning Action Cell (LAC) as a School-Based Continuing Professional Development Strategy.

Professional learning communities aim to improve the skills and knowledge of educators through collaborative study, expertise exchange, and professional dialogue, and improve the educational aspiration, achievement, and attainment of students through stronger leadership and teaching.

The study is anchored on the System Theory formulated in 1920 by Bertalanffy seen as a series of interrelated and interdependent parts in such a way that the interaction of any part of the system affects the whole system. The idea of PLC is underpinned by the concept of distributed leadership (Harris,2008) which is concerned with the reciprocal interdependence that shape leadership practice. Within professional learning communities, distributed leadership is characterized by teachers working together on a shared area of enquiry (Harris, 2009). Distributed leadership provides the infrastructure that holds the community together, as it is the collective work of educators at multiple levels who are leading innovative work that creates and sustains successful professional learning communities.

This study was guided by the following research paradigm testing if there is a significant relationship between the independent and dependent variables.

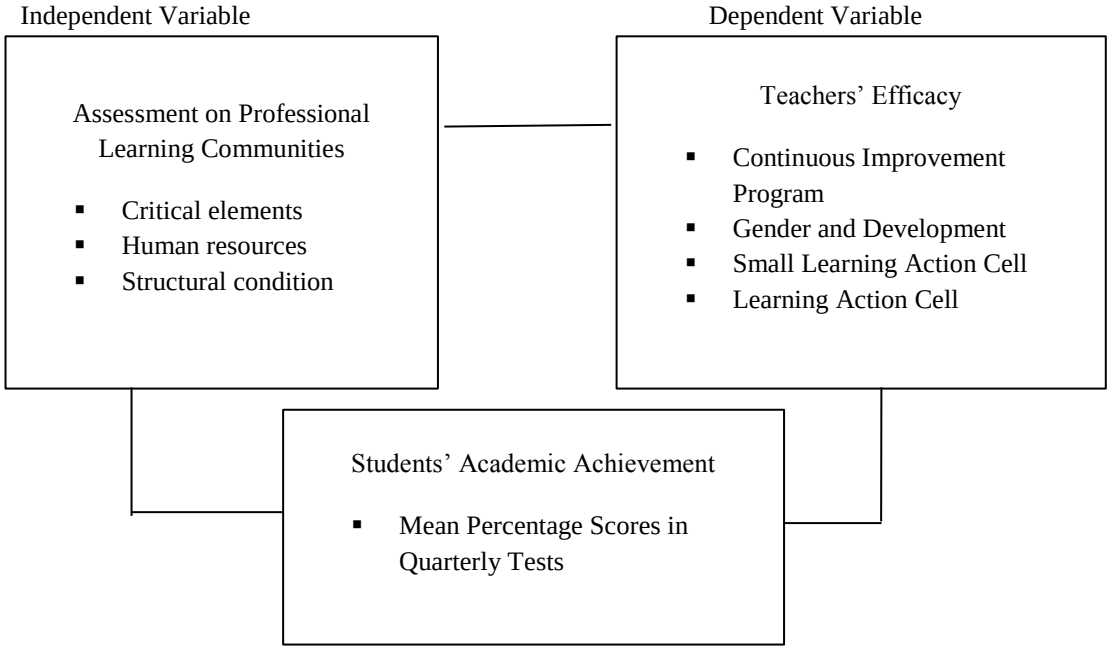

Figure 1:-The Research Paradigm

Methodology:-

Research Design.

This study employed the descriptive survey method, a type of quantitative research design that involves making careful descriptions of educational phenomena (Gall, Gall & Borg, 2007). Quantitative research is a formal,

objective, systematic process in which numerical data are used to obtain information and is used to describe variables; to examine relationships among variables; and to determine cause-and-effect interactions between variables (Burns and Grove, 2005).

Respondents of the Study.
A total of 564 public secondary school teachers in a certain schools division in Laguna Philippines served as the respondents of the study. They were chosen through simple random sampling technique.

Research Instruments.
The instrument of this study was divided into two parts with indicators validated by experts. The first part was designed to solicit data on the respondents' assessments of their school's professional learning communities in terms of critical elements, human resources structural condition. The researcher adopted the Professional Learning Communities Survey Exercise developed by Fred Neuman, Sharon Kruse, Karen Seashore Louis and Anthony Bryk with some modifications. Every variable contains five indicators which were assessed using the following scales: 5-extremely observed (EO); 4-highly observed (HO); 3-Observed (O); 2-moderately observed (MO); and 1- not observed (NO). The second part obtained the respondents' self-assessments of their efficacies in the preparation and implementation of the following school programs: Continuous Improvement Program (CIP), Gender and Development (GAD), Small Learning Action Cells (SLAC) Session, and Learning Action Cell (LAC) Session. Each variable also contained 5 indicators following the same scales in part 1 of the questionnaire. Teachers' efficacy to school programs was then interpreted as follows 4.50-5.00, Very High; 3.50-4.49, High; 2.50-3.49,Moderate; 1.20-2.49, Low; and 1.00-1.49, Very Low.

Data Gathering Procedure.
The researchers secured written permission from the Schools Division Superintendent as well from the school heads to conduct the study. They distributed the survey questionnaires personally among the teachers of the participating schools who were carefully guided in answering the questions. Filled up questionnaires were retrieved on the date agreed upon. Information and data reflected on the questionnaire were tabulated, analyzed and interpreted.

Ethical Considerations.
Surveys did not require any identifiable information from participants of the study, and all participants have the choice of whether to participate or not and for how long. There were no foreseeable risks for participating. Interested participants and the superintendents of the school district have access to the results at the conclusion of the research project.

Statistical Treatment of Data.
Weighted mean and standard deviation were used in determining the assessment of the respondents on professional learning communities. Mean percentage scores and standard deviation were utilized to measure students' academic achievement. Chi-square test was used to determine the significant relationship between professional learning communities and teachers' efficacy on school programs while Pearson r was employed for significant relationship between teachers' efficacy and students' academic achievement.

Results and Discussion:-

The respondents' assessment of schools' professional learning communities in terms of critical elements is indicated in Table 1. A general weighted mean of 3.87

Table 1:-Assessment of Schools' professional learning communities in terms of critical elements

Indicators	Weighted Mean	Description	Rank
1. Reflective Dialogue	3.87 (0.85)	Highly Achieved	2
2. De-Privatization of Practice	3.84 (0.77)	Highly Achieved	4
3. Collective Focus on Student Learning	3.80 (0.67)	Highly Achieved	5
4. Collaboration	3.96 (0.80)	Highly Achieved	1

5. Shared Norms and Values	3.86 (0.73)	Highly Achieved	3
General Weighted Mean	3.87 (0.76)	Highly Achieved	

described as highly achieved means that schools are doing activities where they can improve the essential education processes. They are striving harder to meet their set end goals from planning phase up to the assessment. Among the indicators of critical elements "collaboration" got the highest mean of 3.96. Teachers not only work together to develop shared understanding of students, curriculum and instruction policy, but also produce materials and activities that improve instruction, curriculum and assessment.

Table 2 reflects the respondents' assessment of schools' professional learning communities in terms of human resources.

Table 2:-Assessment of schools' professional learning communities in terms of human resources

Indicators	Weighted Mean	Description	Rank
1. Openness to Improvement	4.01 (0.66)	Highly Achieved	1
2. Trust and Respect	3.84 (0.83)	Highly Achieved	3.5
3. Cognitive and Skill-Based	3.89 (0.75)	Highly Achieved	2
4. Supportive Leadership	3.84 (0.78)	Highly Achieved	3.5
5. Socialization	3.80 (0.77)	Highly Achieved	5
General Weighted Mean	3.88 (0.77)	Highly Achieved	

All the indicators were rated as highly achieved with weighted means ranging from 3.80 to 4.01. However, "openness to improvement" ranked first which means that "teachers take risks in trying new techniques and ideas and make efforts to learn more about their profession."

The succeeding table shows the teachers' assessment of schools' professional learning communities in terms of structural condition. All the indicators were described as "highly achieved". Teacher empowerment and school autonomy ranked first with mean of 3.82. This means that "teachers have autonomy to make decisions regarding their work guided by the norms and beliefs of the professional community."

Table 3:-Assessment of schools' professional learning communities in terms of structural condition.

Indicators	Weighted Mean	Description	Rank
1. Time to Meet and Talk	3.75 (0.73)	Highly Achieved	3
2. Physical Proximity	3.71 (0.80)	Highly Achieved	5
3. Interdependent Teaching	3.73 (0.77)	Highly Achieved	4
4. Communication Structure	3.78 (0.73)	Highly Achieved	2
5. Teacher empowerment and School Autonomy	3.82 (0.74)	Highly Achieved	1
General Weighted Mean	3.76 (0.75)	Highly Achieved	

The respondents assessment of their efficacy in the preparation and implementation of continuous improvement

program is shown in Table 4. With a general weighted mean of 3.89 described as highly achieved implies that teachers are highly efficient in the preparation and implementation of CIP. They are capable of creating innovations for the continuous advancement of their respective schools. Among the indicators, "teachers are actively engaged in different programs and projects that really help the school and school officials in providing continuous improvement", got the highest rank with a mean of 3.94.

Table 4:-Assessment of teachers' efficacy in the preparation and implementation of continuous improvement program (CIP)

Indicators	Weighted Mean	Description	Rank
1. Teachers share ideas in the planning, organizing and implementing continuous improvement projects.	3.91 (0.72)	Highly Observed	2
2. Teachers are given the opportunity to explore things beyond the box.	3.87 (0.78)	Highly Observed	3
3. Teachers are involved in the monitoring and enhancing the projects that involve continuous improvement.	3.86 (0.74)	Highly Observed	4
4. Teachers are actively engaged in different programs and projects that really help the school and school officials in providing continuous improvement.	3.94 (0.71)	Highly Observed	1
5. Teachers can make a simple decision regarding continuous improvement.	3.85 (0.78)	Highly Observed	5
General Weighted Mean	3.89 (0.76)	Highly Observed	

The teacher-respondents' assessment of their efficacy in terms of gender and development is reflected in Table 5 which reveal a general weighted mean of 3.87 described as highly observed. This means that teachers are highly efficient taking into consideration the individual differences in terms of capabilities professionally and personally regardless of gender.

Moreover, it can also be gleaned that all of the indicators under this variable are described as Highly Observed with weighted means ranging from 3.84 to 3.91. The indicator "teachers are given an opportunity to exchange ideas across and within the department" placed on top with weighted mean of 3.91. This connotes that equality in terms of decision making is observable in the subject schools. Every teacher and staff is given the opportunity to express their ideas and opinions in dealing with certain issue or argument. They are practicing the empowerment of women to bear equal opportunities as men.

Table 5:-Assessment of teachers' efficacy in the preparation and implementation of gender and development (GAD)

Indicators	Weighted Mean	Description	Rank
1. Teachers are given equal chances in performing tasks.	3.88 (0.79)	Highly Observed	2
2. Teachers are given the opportunity to exchange ideas across and within the department.	3.91 (0.78)	Highly Observed	1
3. Teachers are given autonomy to decide regarding their work norms.	3.84 (0.75)	Highly Observed	5
4. Teachers are given an access to	3.86	Highly Observed	3.5

communicate themselves in the group.	(0.75)		
5. Teachers provide an equal opportunity to grow professionally and personally.	3.86 (0.78)	Highly Observed	3.5
General Weighted Mean	3.87 (0.77)	Highly Observed	

On the other hand, teachers' assessment of their efficacy in the preparation and implementation of school learning action cells (SLAC) is indicated in Table 6.

All indicators were described as Highly Observed with weighted means ranging from 4.02-4.08. The indicator" Teachers facilitate and even conduct SLAC sessions to address different issues and concerns." ranked first which means that teachers are spending time and effort in preparing for school-based trainings, mentoring and coaching to address issues and concerns leading to acquisition of desired goals.

Table 6:-Assessment of teachers' efficacy in the preparation and implementation of school learning action cell (SLAC)

Indicators	Weighted Mean	Description	Rank
1. The teachers have the opportunity to lead a small learning cell.	4.02 (0.75)	Highly Observed	5
2. Teachers have the right to participate and engage themselves in SLAC session.	4.07 (0.80)	Highly Observed	2
3. Teachers can speak and voice-out their ideas within and across groups.	4.03 (0.71)	Highly Observed	4
4. Teachers facilitate and even conduct SLAC sessions to address different issues and concerns.	4.08 (0.74)	Highly Observed	1
5. Teachers can be the source of ideas in planning and organizing SLAC sessions.	4.05 (0.78)	Highly Observed	3
General Weighted Mean	4.95 (0.75)	Highly Observed	

Table 6:-Assessment of teachers' efficacy in the preparation and implementation of learning action cell (LAC)

Indicators	Weighted Mean	Description	Rank
1. Teachers have the chance to conduct LAC sessions to their students.	3.8 (0.80)	Highly Observed	5
2. Teachers can use different strategies in conducting LAC sessions.	3.98 (0.72)	Highly Observed	1
3. Teachers are involved in preparing and conducting LAC sessions within and across their area of specialization.	3.92 (0.73)	Highly Observed	3
General Weighted Mean	3.92 (0.74)	Highly Observed	

On the other hand, the teachers' efficacy in the preparation and implementation of learning action cell garnered a weighted mean of 3.92 described as Highly Observed. This means that teachers are engaged in an activity where

there is collaboration to solve shared challenges encountered in the school facilitated by the school head or a designated LAC leader

The average academic achievement of students in 12 participating schools in terms of mean percentage scores (MPS) in quarterly tests for the four quarters revealed below required mastery level of only 64.90. This may be attributed to several factors one of which is teaching. According to UNESCO, 2014 successful teaching is a result of the systematic use of appropriate strategies for delivering and assessing the learning objectives targeted for each lesson.

A Chi-square test of independence was calculated comparing the teachers' level of PLC and efficacy. No significant interaction was found (X^2 (11)=0.0230,p<.05). The estimation on relationship does not substantiate the existence of adequate evidence to claim that correlation exists.

Pearson moment correlation coefficient was employed to calculate the significant relationship between PLC and students' academic achievement. A significant relation was found (r=0.172, p=0.0101) described as weak positive correlation suggesting that PLC influence the students' achievement. Assessed only as Highly Observed, the PLCs were found to be significantly related to the students' below mastery academic achievement. Supportive of this finding are the findings of Supovitz (2002) and Christman (2003) showing that student achievement gains varied with the specific focus on the efforts of teams or small communities of teachers. There was evidence to suggest that those communities that did engage in structure, sustained and supported instructional discussions produce significant gains in student learning.

The same test was utilized to determine the significant relationship between teachers' efficacy and students' academic achievement. A significant relationship was found (r=0.2961, p=0.0002) which substantiates the interpretation that the higher the efficacy level of teachers, the better the students performance. In this study, teachers' claim to have their efficacy as only Highly Observed and students' achievement below mastery level. Reeves, 2011 supports these findings that although teachers have an undeniably large influence os students' results, they are able to maximize that influence only when they are supported by school and system leaders who give them the time, the professional learning communities and the respect that are essential for effective teaching (p.70).

Conclusion:-

The findings of this study revealed that no significant relationship existed between PLCs and teachers' efficacy. However, there was a significant relationship between teachers' efficacy and students' academic achievement as well as between PLCs and students' acheivement.

Recommendations

In the light of the findings of this study, school administrators need to provide the schedules and structures for initiating and maintaining organizational learning and its application by the professionals in the school; develop shared goals and objectives to be clearly communicated to all members of the professional learning communities; and for the teachers to employ varied teaching strategies to improve students' learning.

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