Male Science Teachers in The Female-Dominated World: A Phenomenology in Focus

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ABSTRACT

The dominance of female science teachers in the workplace confronts their male counterparts with peculiar experiences, challenges, and opportunities. Using the qualitative phenomenological tradition in achieving the purpose of exploring the lived experiences of male science participants in the female dominated science world, the study revealed that they experienced fickleness in decision of their woman school head and fear of gossip from their female counterparts. However, they also acknowledged that they had experienced fair treatment, so they never had any problem to get along with them. Aside from these experiences, they admitted that they adjusted themselves to their students' idiosyncrasies. Meanwhile, they considered lesson preparation, adjustment to the school culture, different idiosyncrasies of students, difference in attitude, and enhancement of content in teaching and learning science as challenges which dominantly faced up in the workplace. Despite all these, they acknowledged that they had enjoyed some opportunities, such as enhancement of knowledge, designation as club adviser, participation in seminars, and reading of educational materials. In the end, the study had two implications. First, it redounded to revisiting the faculty development program to ensure the implementation of programs or activities and to sustain their healthy relationship at the workplace. Second, it responded to the need of monitoring and evaluation of the administrative performance of the science department head to ensure that in the exercise of her power or authority, she would observe gender equality among her teachers.

KEYWORDS: Educational management, lived experiences, phenomenology, Philippines

INTRODUCTION

Unscientific theories have been long used to keep females out of the educational system. In our personal reading, we learned from Kern (2005, p. 24) that Rousseau seemed successful in inseminating a perspective that women were not qualified for mathematics and science because their brains were unfit. In effect, the exclusion of women from science education continued until the 1800s when they were already allowed to access to formal educational institutions with an express understanding that women and men would pursue vastly different educational goals. But, despite this, women continued to be commonly viewed as mentally inferior in terms of capabilities (Lucidi, 1994).

In the global setting, many researchers have reported gender of teacher to be a significant predictor of effectiveness. In their report, females were reported to be more effective teachers than their male counterparts. But, in contrast, Kulkarni (2000) found that male teachers were effective whereas female teachers were average.

In the national setting, Philippines is found to be the best performer among the ASEAN regions on indicators of gender equality in work (Hapal, 2018). Such a finding is corroborated by Morales, Avilla, and Espinosa (2016) that gender issue is not a great predictor of career choice in science teaching. Hence, regardless of whether a teacher in science education is male or female, it does not matter at all in a workplace. What is important is that he or she can discharge his or her function and duties as a science teacher.

However, with due consideration to the fact that no studies accounting the experiences of male science teachers in the female-dominated science education have been conducted yet, as researchers, we were challenged to pursue a qualitative investigation of male science teacher's personal experiences with their counterparts in a workplace. We found it necessary to investigate their individual experiences as their revelation could be used as a basis for future directions which might be significant for the consideration of key officials of the Department of Education.

Research Objectives

Our intention for pursuing this study was to explore the lived experiences of male science teachers with their female counterparts in science department of the Department of Education in Paquibato District, Davao City. Specifically, we intended to accomplish the following objectives:

1. To describe the lived experiences of male science teachers in science department dominated by the female counterparts;
2. To identify the challenges and opportunities which they have encountered; and,
3. To draw out some implications which may help improve the quality of their lives.

METHODS

The phenomenological design was used for the purpose of exploring the lived experiences of male participants in teaching science amidst the female dominated science cluster at the A. L. Navarro National High School. In attaining this purpose, we adhered to Creswell's guidelines (2012, p. 66) in which 'open-ended' questions for interview was applied to get authentic understanding of people's experiences. Furthermore, through this interview approach, we encouraged our participants to offer their own definition or meaning of the phenomenon.

According to Corbetta (2003, p. 3), qualitative interview is an in-depth method that can grant access to deep knowledge and explanations and help to grasp the subject's perspective. Bryman (2008, p. 45) added that, through interviews or face-to-face discussions, subjective and detailed personal story can be told, with focus on how the interviewee understands and explains different phenomena.

Hence, in this study, most of the interviews were conducted at the place where the participants feel safe to share information. We observed any fixed patterns of the

interview process. We started with the topics that the informants could easily talk about, such as happy days in school, until important issues were tackled. The average interview duration concerning their experiences in the school campus, lessons learned and insights ran for more than an hour.

In the process of qualitative interview, we put emphasis on the interviewee's point of view, so we needed a recorder to completely record information during the actual interview and focus group discussion. Through this, the information became thickly-rich and comprehensible (Bryman 2008, p. 77). We found it essential to get informants who could provide quality data in the course of investigation. So, in adherence to Silverman's guidelines (2006) as cited in Bryman (2008, p. 87) for purposeful sampling, we set a criterion for the selection of the participants to insure the authenticity of the information, and these included that they were male science teachers, that they were assigned to teach science subjects both in high school and senior high school departments respectively, and that they taught at A.L. Navarro National High School.

Samples of potential participants represented the target population of interest, with the sampling frame comprised of the population from which the sample was drawn (Creswell, 2012, p. 74). So, in this study, the informants were purposively chosen so that the information needed to expedite the study could exactly answer the research questions.

The manner of conducting this study was within the bounds of seven key principles of ethical research, as pointed out (in Bryman, 2008, p. 67), and these included the following: informed and voluntary consent, respect for rights of privacy and confidentiality, minimization of risk, truthfulness, social and cultural responsibility, research adequacy, and avoidance of conflict of interest in the conduct and practice of this study. These principles of ethical considerations ensured that the participation of selected teachers in this undertaking was completely voluntary in nature and based on an understanding of adequate information.

In order to abide by the research ethics, the following issues were considered. Prior to the undertaking of the study, we sought a research clearance permit from the Schools Division Superintendent of Paquibato District, Davao del Sur. Permission was also sought from the Principal of the A.L. Navarro National High School of the respective students and learners. Administrators of the respective schools were also asked for their permission.

Dominant concern of this study was reflected in the rights of privacy and confidentiality, and the minimization of risk to participants. Reasonable steps were taken to guarantee participant confidentiality. So, the participants were informed of their rights to withdraw their information at any time until the completion of the data collection process. This provided them the opportunity to amend, or remove any information which they felt might identify them or they might be uncomfortable.

Gaining the trust and support of phenomenological research (in Creswell, 2012, p. 35), we did ask the participants of their consent before scheduling the interviews and participating in the research process. This indicated their willingness to participate in the study. Personal assurances of committed participation, prompt scheduling of the interviews and personal contact diminished attrition, non-responsiveness, and ensured adequate participation to achieve thematic saturation.

The informed consent letter articulated the procedural steps to maintain privacy, confidentiality, and the non-attribution of individual's responses. This letter also declared that the participants' background information remained confidential and was

released without prior expressed personal approval. Restricted access to information was ensured to protect and secure any information and to maintain confidentiality and anonymity. All responses were, henceforth, secured from inappropriate disclosure to enhance reliability and validity of provided data. All participants were required to sign and return the letter of consent to the researcher before participating in the research. All responses were also secured in a locked repository.

In this study, we closely observed ethical considerations. We found it extremely important to give high esteem to any of the informant's individual rights to privacy and confidentiality. Hence, before involving them in this undertaking, we assured them that their identity was concealed. The information which they disclosed was kept highly confidential.

As qualitative researchers, we played some roles in the course of conducting the study. We played the role of interviewer and transcriber. As interviewers, we gained first the trust of the informants before interviewing them. We assured them that their identity was hidden, and the information they disclosed with me was kept confidential. During the interview, we used a gadget to record complete information from the participants. Likewise, when the informants did not understand some of questions, we codeswitched for their own understanding.

As transcribers, we decoded the data from recorded form to another including those noted non-verbal cues such as, facial expressions, vocal tone and manner of reactions or responses of the informants. If some information was incomprehensible, we would refer to the recorded data.

To ascertain the credibility of the information, we did not rely only on one source of information, but also on the data from extensive forms such as recorded information, interviews, focused group discussion, online journals and books (Creswell, 2012).

For data analysis, we did adopt the tradition of phenomenology for data managing, reading, memoing, describing, classifying, interpreting, representing and visualizing (Glaser & Strauss, 1967; Goetz & LeCompte, 1984 as cited in Creswell, 2012). As for data managing, we created and organized files of data gathered from interviews, focus group discussions, recorded notes, articles from online journal and books. We read through the transcribed texts, made margin notes and formed initial codes for reading and memoing. We also described the case and its context for describing. We further used categorical aggregation and established patterns of categories for classifying. For interpreting, we used direct interpretation and developed naturalistic generalization. For representing and visualizing, we presented the narratives augmented in tables.

RESULTS AND DISCUSSIONS

Male Science Teachers in Female Science World

The informants who are involved in this study are five male science teachers at one of the school in Panabo, Davao del Norte. With the use of qualitative interview, they disclose their experiences in the female dominated science department, faculty room, and laboratories. The information which is gathered from the interview is clustered and described in the following themes:

Fickleness in Decision Making. This is the first theme which emerges from in-depth interview. In response to the query on their lived experiences in science department dominated by their female counterparts, the participants narrate instances

where their female school head has made a change on the individual faculty loading. The first male participant says that he is sad to know about the decision of the school head through the science department head that his subject loads would have been changed. According to him, he feels disappointed because aside from the fact that he has prepared for the subjects, he has already attended to his classes for almost a week. Out of dismay, he describes his school head as fickle-minded.

Similarly, the second male participant recounts his shocking experience of receiving subject loads which he knows nothing at all. He additionally confesses that he is less competent in teaching them, for these are beyond his academic training. Like the first one, he too feels bad about the action as suggested in the following discourses:

> *"Ang atuhang working environment is dominated by female teachers like our school head before. Ang na obserb nako kay on matters of decision making about school issues….such as, teaching loads. Naa nakoy subject loads daan, ug ako na gi-meet ang mga bata. Nasubo ko kay walay firmness, hatag-bawi ang sistema niya. Dapat pod adunay firmness on deriksyon, dili usabon o magpapaling-paling. Dapat mo stand by sa gidesisyunan para sa kaayuhan sa school ug sa mga bata."* (Our working environment which is dominated by women was once led by a woman principal. I observed how fickle-minded she was in making decisions concerning school issues, such as teaching loads. I had a sad experience about it. I was given subject loads and met the classes already. I felt so disgusted because our school head was inclined to change her decisions. She should have stood by her decision for the benefit of the school and our school children.") – P1

> *"Unya, ako pod nalain pud ko Mam kay gibawi man ang loads nako unya gitagaan kog subjects na dili man align sa akong qualifications.* (Then, I felt bad, Mam, because I was given other subjects which were not aligned with my qualification. – P2

The unpleasant experiences of the male participants with their female school head are brought about by their school head's decisions. They seemingly describe her actions, such as withdrawing the assigned teaching loads and assigning them to incompetent ones as imprudent and unthinkable. They get displeased because their school head apparently fails to reconsider the time and effort which they have almost spent for lesson planning and preparation of learning materials for their classes. Besides, what displeases them further is her lack of consideration on the educational qualification and training of a teacher to handle new teaching loads. So, this makes them so much disgruntled that they name or describe her style in decision making erratic and fickle. In short, they indirectly state without denying it either that they find her misfit for the position.

Fickle-mindedness arises from the person's lack of a strong sense of likes-dislikes and preferences in life and lack of will-power. In this study, the science department head must have known her subject teachers in terms of knowledge, skills and attitudes. It seems, however, that she is inclined to wilt under pressure when the school head who happens to be a woman demands change in the assignment of subject loads. So, she makes a change in the faculty loading of her male science teachers.

Nevertheless, the action of the department head is based on the order of the school head. Had she disobeyed, she would be cited with contempt and insubordination. Hence, by virtue of obedience, she takes the action which is required of her by the school head.

In human behavior, obedience is a form of social influence in which a person yields to explicit instructions or orders from an authority figure. It is generally distinguished from compliance, which is behavior influenced by peers, and from conformity, which is behavior intended to match that of the majority. In the context of this study, the obedience shown by the department head is accorded to the norm of the institution.

In the light of feminist view on management, the action of the female department head in response to the instruction of the school head is characterized as feminine quality soft skills. The term "soft skills" is defined in the Collins English Dictionary (2018, p.66) as desirable traits or qualities for certain form of employment that do not depend on acquired knowledge. Soft skills include common sense, the ability to deal with people and a positive flexible attitude. Henceforth, the fickleness in decision making as alleged by the male science participants emanates from the feminine style of management of the science department head who uses her soft skills and common sense in discharging her duties.

Fear of Gossip. This is the second theme drawn from the interview. According to the participants, they are cautious of their action while staying in the faculty room because of their fear to be backbitten or gossiped by their female counterparts. This is drawn from their discourses:

> *"In the first place makig-ulawon jud ko sa mga babae unya dili kaayo ko hilig magtingog-tingog kay maulaw ko kay bag-o ra ko sa department ug nagabantay ko sa akong mga lihok kay basin ug mamali ko basin ako pa mahimong subject sa tsismis sa akong mga kauban na babae. Nagkinto lang ko kay lahi jud ang mga babae."* (I am shy with women. Besides, I am not used to talk with them, for I am just new in the department. I am also cautious with my actions, for I am afraid that I might be backbitten. Women are really different for me.) – P1

> *"Kadtong usa pako ka semana sa A.L. Navarro National High School, Mam, na shock jud ko aktwali kay mismo nakita jud nako ang pagtapok-tapok sa mga kauban nako na mga babae sa faculty room, ug nadung-gan nako ang ilang istorya bahin sa kang kuan. Unya, nag-pretend lang ko nila nila na wala ko kadungog. Gikan adto, pag muabot kog faculty room, bisihun jud nako akong kaugalingon."* (During my first week of duty at A.L. Navarro National High School, Mam, I was actually shocked because I observed gossiping among my colleagues in the department. I heard them talk about somebody, but I pretended that I did not hear anything from them. So, when I were in the faculty room, I kept myself busy.) – P2

Gossiping is a human nature. In the context of this study, this characteristic is observed by the participants to be dominant among the female teachers. As this is undesirable in their eyes, they choose to keep themselves busy as they work inside the faculty room and pretend to hear nothing from the gossipers.

In the perspectives of Baumeister, Zhang, and Vohs (2004, p. 43), gossiping is essentially a means of gaining information about individuals, cementing social bonds, and engaging in indirect aggression. They assert that gossip serves to help people learn about how to live in their cultural society. In short, gossip is an extension of observational learning, allowing one to learn from the triumphs and misadventures of people beyond one's immediate perceptual sphere. Hence, in this perspective, there is nothing to fear of gossip anyway as it is not always derogatory.

Additionally, gossiping is taken as an opportunity for people in the workplace to relieve themselves from boredom. They consider it a pastime, a form of entertainment as they find the workplace boring and monotonous (Chua & Uy, 2014, p. 32). It is theorized that the nature of gossip is a projection of the gossiper's life issues which are basically grounded on his overall self-concept and reflected in his anxieties. The poorer the self-concept is, the higher the level of complexes (i.e. inferiority and superiority). The higher the level of complexes, the more anxious a person becomes. In addition, gossip runs on social support. Without social support, the transfer of information is halted and the gossip ends. Thus, man's ability to cope with his anxiety levels and compensate for life's needs and demands, together with the social support received by gossip, increases the propensity to gossip.

Getting along with Women. This is the third theme drawn from the interview. During the disclosure, one of the male participants admits that he does not have any negative issues against his women counterparts in science department. Though he knows that male science teachers are outnumbered, he does not have any problem at all with it, for he can easily get along with them anyways as inferred from the given discourse:

> *"Base sa akong obserbasyon na kasagaran jud daghang babae na teachers in terms of number. Kasagaran pod gamay ra jud lalaki sa teaching force. Walay may issue para nako ang mga babae. Dali man ko maka mingle sa ilaha."* (Based on my observation it is a reality that female teachers are bigger in number than their male counterparts. But it is not an issue for me anymore. I find it easy to mingle with them.)- P3

Getting along with the members of the faculty can be challenging because of difference in character, attitude, and skills. However, this ability is deemed essential in academic community in order to lessen conflict with one another. Besides, through this, a cohesive and relatively happy academic environment being created may inspire and encourage the workforce to perform their duties effectively and efficiently.

In view of this, May, Gilson, and Harter (2004) as cited by Ariani (2015, p. 54) explain that employee relationship with co-workers and supervisor will affect the psychological condition of employee in the workplace. According to them, this relationship will increase the psychological meaningfulness and employee engagement in their job. It will increase friendship and sense of belonging. Besides, appreciation from co-workers and supervisor will create caring and improve the safety of employees in the workplace.

Ariani further explains that psychological conditions can affect the individual engagement of roles or duties. These can include psychological meaningfulness, safety, and availability. Psychological meaningfulness is the work values associated

with standard or individual idealism. Individuals who feel personally meaningful will be motivated to give himself fully to the work and organization. Psychological safety shows individual beliefs to work without any negative consequences or without fear. It will engage individuals to the job and the organization. The availability of resources physical, emotional, and cognitive would encourage individuals to be engaged by the role it plays. Hence, in the context of this study, one of the participants acknowledges the essence of getting along with his fellows in the department, so he establishes cordial and civil relationship with them.

Adjustment to Students. This is the fourth theme arising from the gathered information. According to the participant, he has diverse experiences with students in school. He admits that every batch of students whom he deals with every year is different from previous batches. Although he is already a seasoned teacher, he realizes the importance of adjusting his teaching approaches and strategies to students because of their difference in cultural orientation or background. This is inferred from the given discourse:

> "Experience. Just like any other area, experiences are always the same. Although your experiences could vary from time to time cause your experience in one section may be different in another section or in another batch. But, most of my experiences are ….how to adjust to students although I consider myself as a seasoned teacher, so I have a lot of experiences good or bad. Of my good experiences, I am always able to adjust to my students. There are also ups and downs because as always there are students are coming from different cultures, backgrounds, they also have idiosyncrasies. But, the adjustment would come from us teachers, if you are able to adjust or flexible enough. And, that could solve the problem. Whether the experiences good or bad, there are always be a teaching experience." – P4

Adjustment as mentioned by the male participant during the interview refers to actions or modifications which he makes to enable his students to access to educational content and outcomes. Meaning, adjustments can be made to the way the curriculum is taught and the way students learn.

Adjustments to teaching and learning may include curriculum adjustments and instructional adjustments. Curriculum adjustments refer to the modification of curriculum outcomes in order to meet the student's individual learning needs. Instructional adjustments, on the other hand, pertain to changing the mode of instruction, such as using alternative representation of teaching and learning materials, motivating students through engagement with their personal interests, explicit and systematic instructions, levels of prompting, modeling problem solving, providing opportunities for the students to think aloud and scaffolding student learning through guided practice and support (Tomlinson, 2017, p. 33).

Tomlinson adds that teachers may utilize of a variety of ways for students to explore curriculum content, a variety of sense-making activities or processes through which students can come to understand and own information and ideas, and a variety of options through which students can demonstrate or exhibit what they have learned. To shape teaching and learning in a differentiated classroom, Tomlinson suggest the four strategies. First, instruction is concept focused and principle driven. It enables

students to expand their understanding and application of the key concepts and principles. In short, it stresses understanding rather than retention of fragmented bits of information. Second, on-going assessment of student readiness and growth are built into the curriculum. Teachers do not assume that all students need the same segment of study, but continuously assess student interest and provide assistance when needed. Third, flexible grouping is used. It encourages students to work in many patterns, whether in-groups or individually, or as one large group. Lastly, students are active explorers, and teachers, and teachers guide the exploration. In the differentiated classroom, the teacher works as a guide or facilitator of learning while the students learn to be responsible for their work and develop ownership of their learning.

Fair Treatment of Faculty. This is the last theme drawn from the perspectives of male participants on their experiences in science department. Based on the interview, the participant accepts the fact that female science teachers outnumber their male counterparts in science faculty cluster. He likewise adds that even in regional or national seminars or trainings, the male science teachers are outnumbered. However, despite the dominance of female science teachers in the department, both male and female sciences teachers are fairly treated in terms of workload and opportunities. This is evident in the given discourse:

> "With regards to being a male teacher in senior high school, actually the demographic is not dominated by male or female, because there are only two senior high school teachers, and then I am one, and the other one is female. With regards to the general picture of senior science teachers, it is really dominated by females since we go to seminars, most of the participants are dominated by female compared to male. And then, with regards to my experiences as being part of the organization, where there are more female teachers, I do not really feel any difference in terms of workload or treatment, because the department even the school gives equal opportunities to both male or female teachers regardless of gender." – P5

Fair treatment of science teachers regardless of sex/gender in terms of workloads and opportunities for professional growth is apparently observed by the science department head. This may suggest that as a woman leader, she treats everyone appropriately and individually based on circumstances and contribution. She also exercises sound judgment regarding her subject teachers' knowledge, skills and attitudes. Hence, in assigning workloads and sending faculty to seminars and trainings, she seemingly takes prompt and proper actions in consonance with the existing policies of the school.

As the department head is in charge of implementing the policies and procedures to ensure an appropriate work environment, she is at the forefront of the employee-organization relationship. Schyns and Day (2010, p. 35) and Wayne et al. (2002, p. 73) added that quality of the relationship between employees and supervisors can be expressed through the concept of leader-member exchanges. Quality exchanges are characterized by open communication, mutual trust, respect, support, loyalty and affection.

In the context of fair treatment of faculty, the female department head promotes mutual trust in, respect for, and support to her subject faculty; thus, she recommends

their attendance and participation in relevant seminars and trainings. In turn, through these traits, her faculty develop a feeling of being valued and important. According to Eisenberger et al. (1997, p. 45), the support measures deployed by an organization contribute to establish a feeling of being valued.

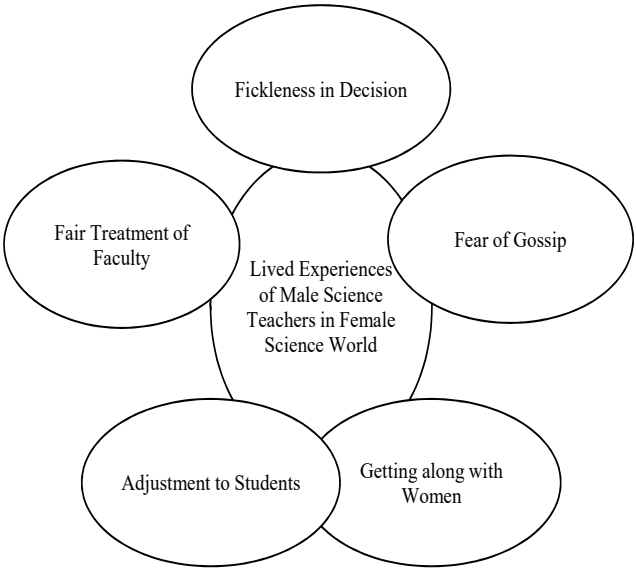

Figure 3: *Emerging Themes on the Lived Experiences of Male Science Teachers in Female Science World*

Challenges in Female Science World

As science teachers, the participants encounter some challenges in the workplace which is dominated by women. Among these challenges include lesson preparation for a new subject matter, adjustment to the culture, and uniqueness of co-workers in perspectives.

Lesson Preparation. This challenge is clamored by the participants. They say that once they are given a new subject to teach especially if they are unfamiliar with it, they are forced to study or undergo mentoring session with their fellow teachers who are academically or technically trained about it. For them, it is not only tiresome, but stressful on the part of their mentors. They say,

> *"Teaching loads na dili align sa imong major. Unya tagaan ka ug different teaching loads or preparation na dili nimo forte….like patudluon ka ug Values, Math ug Filipino."* (For me having teaching loads or preparation that are not aligned to my major or forte like values, math, and Filipino.) – P2

> *"Kung kuhaan kog teaching loads, unya pulihan ug bag-o, mag prepare na pud ko otro. Hago na kaau."* (Another preparation for a new subject loads is tedious.) – P1

Preparing a lesson plan is basically one of the most important routines of a teacher in school. Before meeting his class, the teacher has to prepare a lesson plan – a detailed description of the course of instruction or 'learning trajectory' for a lesson. This plan is a useful tool, for it directs him on what to teach and how to teach it so that the specific objectives of the day are achieved.

However, in the context of this study, the participants seem to be clamoring on lesson preparation. Though they know how to prepare a lesson plan, they manifest their predicament in handling the subjects (e.g., Values, Math, and Filipino) which are not allied to their field. In terms of course content, they indirectly express their qualms and anxieties on the possible drawback of their incompetence to the learning experiences of their students.

The Department of Education in the Philippines highlights lesson planning as a core skill that should have been developed during any professional teacher's pre-service training/undergraduate preparation. In response to the clamor, DEPED explains that a Daily Lesson Log (DLL) is a standard template that covers a week's worth of lessons in one tabular format. The use of DLL supports teachers in upholding quality education standards and helps them plan lessons efficiently and effectively (Manila Bulletin, 2018, p. 23).

Adjustment to the School Culture. This challenge makes the participant realizes the necessity of adjusting to the culture of the school. What he further sees is the importance of getting actively involved in department or school activities, for through this, he can develop good relationship with his colleagues. He says,

> *"Of course dapat man jud makibagay ko ug mag aktibo pod ko para dili kaayo ko malayo sa akong mga kauban sa department."* (Of course I know for a fact that I have to be part in my department even that I am neophyte to the department especially in teaching.) – P2

In this context, the participant sees the importance of adapting the culture of the school. School culture generally refers to the beliefs, perceptions, relationships, attitudes, and written and unwritten rules that shape and influence every aspect of how a school functions, but the term also encompasses more concrete issues such as the physical and emotional safety of students, the orderliness of classrooms and public spaces, or the degree to which a school embraces and celebrates racial, ethnic, linguistic, or cultural diversity (Education Reform, 2013, p.44).

As he is already a part of the school community, so must he observe the norms or traditions and get involved in the institutional activities. Failure to adjust can lead to his inability to satisfy his biological, psychological or social needs successfully and establish an imbalance between his personal needs and expectation of the society resulting in the disturbance of psycho-equilibrium (Educational Psychology, 2017, p. 95).

Difference in Attitudes. This is the challenge which the participant encounters in their department. He observes myriads of attitudes of his fellow science teachers, so

what he does is that he learns to use a strategy in order to establish relationship with them. He says,

> *"Ang mga challenges sa department in terms of my co-worker attitude and cope up sa mga lain-laing panglantaw, sa batasan ug kung unsaon nimo para makarelate ka sa ilaha."* (The challenge that I encounter is the different attitudes of my co-workers. In order to build relationship with them, I learn to make a way.)-P3

Seemingly, in reference to this discourse, the participant does not have any problem with female science teachers in the department in terms of attitude. It may suggest that he understands and accepts the uniqueness of women in terms of how they feel, believe, and behave towards anything, so he gets himself adjusted with them easily. Yusuf, Omolayo, and Azikiwe (2016, p. 49) support the contention of the participant with the findings of their study. According to them, gender does not have significant influence on attitude to work. This indicates that male participants are not significantly different from female participants in attitude to work. Both male and female workers perform the same tasks of teaching, research and community development, and same performance measurement and indices are used to promote them. Also, they are exposed to equal opportunities in terms of benefit and workload. Therefore, being male or female does not influence their attitude to work.

Different Idiosyncrasies of Students. This challenge is referred by the participant to students' cultural orientations and learning modalities. According to him, the challenge is on how to teach students effectively with the use of limited resources of the school. He considers it a challenge because he knows of the cultural diversity and varied learning modes of students every year. So, as high school teacher, he needs to find teaching strategies which can be effective to a group of students he has to handle. This is drawn from the given discourse:

> "Challenge? The challenges are always continuous even the changes in time, so the challenge could be how you are going to teach effectively given the limited sources in school. Another, more on resources, also the challenge on how to find strategies, teaching strategies that would fit different idiosyncrasies of our students because strategies all strategies are not effective even the different types of learners that we have. So, it is always a continuous challenge to find strategy that would be effective to a certain group of students." – P4

Teaching strategies refer to methods, techniques, procedures and processes which a teacher uses during instruction. The use of these strategies is, however, dependent on the learning modalities or cultural orientation of students. In teaching science, for instance, the teaching-learning activities can be considered effective when students reach the goals of life by acquisition of knowledge, skills and values. Dr. Rosalyn Yalon, a Nobel Laureate in Medicine, added, "Science is … not simply a collection of facts. It is a discipline of thinking about rational solutions to problems after establishing the basic facts derived from observations. it is hypothesizing from what is known to what might be and then attempting to test the hypothesis…logical thinking must come

first; the facts can come later" (Hindman, 2003, p. 10). What she suggests is the idea that teaching science is indeed a process.

Enhancement of Content and Teaching Methods. This is the challenge which the participant has confronted at the start of the implementation of science curriculum in senior high school. He is assigned to teach higher science subjects in senior high such as chemistry and physics which he admits to be quite difficult for him to teach. For one reason, he is a graduate of BSE in biological sciences. On the other hand, most of the seminars and trainings which he attends are inclined to teaching lower sciences. Thus, he needs to be enhanced further in teaching chemistry and physics in terms of content and teaching methods.

> "Well the challenges we encounter in our department are the usual… the challenges that we have but in the senior high, it was really challenging at the start of the implementation especially in the science curriculum wherein we were given the loads or subject matters of higher sciences, and our trainings and the relevant seminars were actually more inclined to lower sciences – Science 7,8, 9, 10, when we were in senior high school, the sciences were shifted to actual biological science and physical science. So, one of the struggles that we had is that we had the hard time coping with the actual subject content especially now that we are teaching we open STEM program in the school, the science technology, engineering, and mathematics the sciences, the subjects for science like biology, chemistry, and physics which are the specialized subjects for STEM still we need some more enhancements with regards to content and teaching methods because as for me I am bachelor of secondary education major in biological science so I vouch for biology, but in terms of chemistry and physics, it's quite difficult. Though we can cope by studying, but it's so helpful if there are supplemental trainings. so that is one of the challenges." – P5

The need for supplemental training of the participant is an acknowledgment of the fact that there is mismatch in teacher preparation in science. According to Orbe, Espinosa and Datukan (2018, p. 25), the present teacher education curriculum prepares science teachers to specialize in a specific field such as integrated science, biology, chemistry, and physics. However, in the K-12 curriculum, they are required to teach all the sciences in a spiral progression approach. In their analysis of the experiences of science teachers who teach chemistry in the K-12 curriculum, they discover that the teacher's content, pedagogy, and assessment in chemistry are problematic. Specifically, the challenges are identified as instruction-related factors, teacher competence, in-service training sufficiency, job satisfaction, support from upper management, laboratory adequacy, school resources, assessment tools, and others which influence teacher success in teaching chemistry. These identified challenges greatly affect the ultimate beneficiaries of education, the learners.

Meanwhile, in the study of Buabeng, Ossei-Anto, and Ampiah (2014, p. 33) on physics teaching in senior high school, they suggest that classroom interaction seems to be mostly teacher-centered and tended not to support inquiry-based teaching and learning which promotes conceptual change and enhances performance. Hence, they

recommend that physics teachers may be exposed to efficient pedagogies of teaching and presenting information to learners. The traditional way of teaching, where teacher decides on what goes on in the classroom, has a limited space in the 21st century science classroom particularly physics.

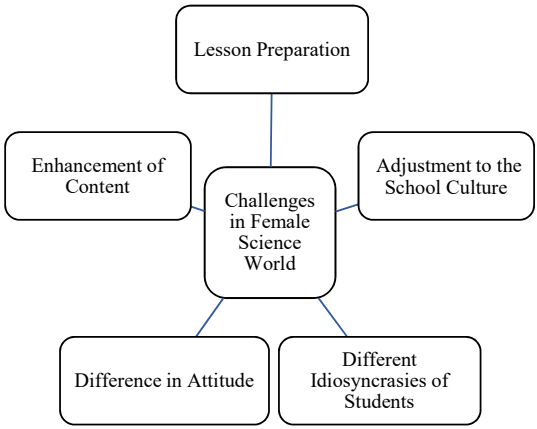

Figure 4: *Emerging Themes on the Challenges Encountered in Female Science World*

Opportunities Encountered

As there are challenges, so are the opportunities the participants have experienced in the workplace. These opportunities include enhancement of knowledge on the assigned subjects, teaching skills and pedagogy, designation as club adviser, and participation in seminars for professional development.

Enhancement of Knowledge. In the foregoing information, the participants consider lesson preparation for a new subject matter to teach as a challenge. However, it is a good opportunity for them for some reasons. First, since it is new to them, they are compelled by circumstance to read books and understand well the content so that they can help enrich the knowledge of their students about the subject. Second, as it is new to them, they find it necessary to seek help from their colleagues who are trained to mentor them. They say,

> *"Opportunities….ahm… yong maging school participant ka sa mga trainings na in line sa science. Yon siya nakaka enhance ng kaalaman mo not only in the subject but the art of teaching, methods ug pedagogies. Tapos ang natutunan mo sa trainings nagagamit mo pagbalik mo sa iyong skul."* (Opportunities are being a school participant in the trainings that in line in science. That I can say it enhance my knowledge not only in the subject but also in the art of teaching, methods and pedagogies.) – P1

Designation as Club Adviser. The participant admits in his foregoing testimony the importance of active involvement in department or school activities. Now, that he is designated as club adviser of science club, he commits to show his capability for the benefits of the club members. This suggests that as science teacher, he finds commitment to work as essential.

> *"Ang mga oppurtunities na akong ginakonsider ka yang mga designation na gihatag sa akoa na nahimo kong adviser sa club ug ipakita pod nako na kaya pod nako."* (The opportunities I consider is when I become the adviser in the science club that I can show my ability and capability as a person.) – P2

Participation in Seminars. This opportunity is recognized by the participant as beneficial to him. Through this, he cannot only acquire effective strategies but also improve his teaching skills for the benefit of his students. This indicates that as science teacher, he has to equip himself with more competencies for the benefit of his students. He says,

> *"Daghang mga oppurtunities sa akong department for example seminars na nagadevelop sa akong skills sa pagpanudlo, strategies ug labaw sa tanan ang pagsolve ug problem sa mga bata labaw na sa classroom activities."* (There are many opportunities I have in my department such as seminars which help me develop my skills in teaching by acquiring strategies that can help solve the problems of my students especially in classroom activities.) – P3

Reading of Educational Materials. The benefit of reading educational materials aside from attending seminar-workshops is acknowledged by the participant considering the fact that yearly the students who are entrusted to them are different. This suggests that as science teacher, he finds it essential to keep himself updated with issues and trends in teaching and learning by continue reading relevant materials. He says,

> Opportunities are also continuous in the sense that every year, every batch of students give us the opportunities to grow, to adjust, given the limitations, and the inadequacies of materials during our teaching service. Opportunities also come from the trainings that are available to us. We also come from the trainings, seminars. We have opportunities from the resources that we use. if you are a voracious reader, if you keep on reading books, magazines, materials available that can also be considered opportunities. – P4

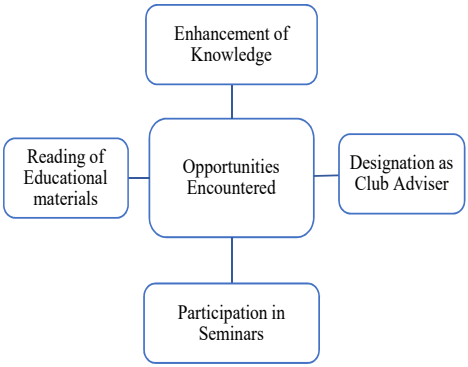

Figure 5: *Emerging Themes on the Opportunities Encountered*

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