



International Journal of Sciences: Basic and Applied Research (IJSBAR)

ISSN 2307-4531
(Print & Online)

<http://gssrr.org/index.php?journal=JournalOfBasicAndApplied>



Perceptions and Preferred Teaching Methods in Physics of At-Risk Senior Students in Biliran, Philippines

Lucell C. Jampas^{a*}, Susan S. Bentor^b, Francisco M. Ebio Jr.^c

^{a,b,c} *Naval State University, Naval, Biliran 6543, Philippines*

Email: franc.mc.eve@gmail.com

Abstract

The study generally aimed to find out the perceptions and preferred teaching methods in Physics of at-risk senior students in Biliran division. It utilized the qualitative-descriptive survey research design involving eight (8) Physics teachers and 434 at-risk senior students as respondents. Most at-risk senior students in Physics belonged to the normal age (15-16 years old). Generally, there were an equal number of male and female at-risk students. Most at-risk students came from a big family. With respect to educational attainment of parents, students' fathers were mostly elementary undergraduate while their mothers were mostly high school undergraduate. With respect to occupation of parents, students' fathers were mostly farmers while their mothers were mostly housekeepers. At-risk senior students perceived Physics as a difficult subject. They learned more in the subject when their teachers' lectures/discussions were slow-paced and translated to national/native language.

Keywords: perceptions; teaching methods; Physics; at-risk students.

1. Introduction

In a learning process, the learners are the best to be considered. Their perceptions and preferred teaching methods towards the subject should be the main focus of educators.

* Corresponding author.

This refers to the knowledge or the ability to perceive and explain the meaning or nature of the subject, its importance and application to one's life. According to Castilla and Celestino [1], Physics became a misunderstood area of science in schools. Students considered it difficult, confusing and irrelevant because it involved thinking, problem-solving and Mathematics. Many people do not want to spend hours on mathematical functions. The same is also true among Filipino students who conclude that Physics is one of the toughest subjects in high school.

Meanwhile, Ang [2] disclosed that the current state of science education in the Philippines particularly in the basic education level, lags behind other countries in the world. The results of the Second International Science Study (SISS) and Third International Math and Science Study (TIMSS) placed the Philippines in a disadvantaged position among participating nations. In the SISS, the Philippines ranked almost at the bottom of the list of 17 nations which took part in this large-scale evaluation of educational achievement. In the different science subject areas, achievement in Physics of Filipino students appeared below the international standards. The Philippines ranked 3rd and 4th to the last in the list of nations in the 1999 and 2003 TIMSS, respectively.

In the division of Biliran, similar scenario appeared. The National Achievement Test (NAT) results in Science of senior students ranked 4th among the five (5) subjects tested, namely: Mathematics, Social Studies, English, Science and Filipino. For three consecutive school years, the Mean Percentage Score (MPS) was just 51.34%, far behind from the mastery level of 75% and above. This result could be attributed to the fact that a number of senior students performed less in the subject because some or many of them are at-risk of failing the subject or dropping the course.

It is along with this vein that the understanding and learning styles in Physics of at-risk senior students in the division of Biliran would be looked into and come up with implications to address the problem.

1.1 Review of Literature

The following literature is reviewed to provide support and substance to the conduct of the study.

Elby [3], on students' "epistemological" beliefs, said that their views about what it means to learn and understand Physics affect how they approach the subject. For instance, a student who believes Physics knowledge to consist primarily of disconnected facts and formulas will study differently from a student who views Physics as an interconnected web of concepts.

Hermes [4] disclosed that when an instructor's style matches a student's learning style, that student typically experiences greater satisfaction and a more positive attitude toward the course. However, there is considerable disagreement as to what degree learning styles actually affect a student's ability to do well. Some learn best by reading, some by listening and some by watching.

Philips [5] said that varying teaching approaches gives more learners better opportunities to engage with ideas. The recommendation for teaching is to increase teaching repertoire.

Cox and Sagor [6] stressed that successful students come to believe that school success is a logical and necessary precursor to bigger and better things down the road. Conversely, unsuccessful students, those whose history of failure has put them at risk, logically conclude that their performance in school foreshadows a host of future failures on the job, in society, and perhaps even in their interpersonal relationships.

Haney, et. al. [7] reported that teacher beliefs were a strong predictor of the intentions to implement reform-based strategies. Using a quantitative approach, they determined that the following four beliefs were most salient to teacher's intention to initiate inquiry: 1) increase student enjoyment and interest in science; 2) foster positive scientific attitudes and habits of mind; 3) help students learn to think independently; and 4) make science relevant to the student's everyday lives.

Kennedy and Morton [8] disclosed that at-risk students' time spent working at the school was a transforming period. It proved to them what they already knew in their hearts. They are troubled adolescents but caring human beings who were more positive than negative individuals and they deserved to be valued by adults.

Sahyun [9] provided a profile of how a student prefers to take-in and give-out information while learning. There appeared to be a preference towards the kinaesthetic modal of students in their classes. It was consistent with what has been demonstrated by active learning studies.

Many high school students find Physics a difficult subject. Admin [10] disclosed, "Physics is one of the hardest areas of study, so this is quite warranted. Likewise, Physics equations are one of the hardest parts of the subject."

According to Brahmia and Etkina [11], the features common to students who are at-risk of failing or withdrawing from their introductory Physics course are: 1) low confidence level, students have low expectations of their potential for success because Physics is a difficult subject; 2) lack of community, students who find few peers in the class tend to feel much more strongly that they don't belong; 3) weak academic preparation, many students come from low-income communities. They often have poorly developed study habits; and 4) unrealistic expectations, in all courses there are students who hope to pass while doing almost no work.

The foregoing review of literature is significantly related and served as foundation in conceptualizing this study.

1.2 Objectives of the Study

This study generally aimed to find out the perceptions and preferred teaching methods in Physics of senior students who are at-risk of failing the subject in Biliran Division.

Specifically, it sought to answer the following objectives:

1. To determine the profile of at-risk senior students in Biliran Division in terms of:

- Age,

- Sex,
- Family Size,
- Highest Educational Attainment of Parents; and
- Occupation of Parents.

2. To find out the perceptions of at-risk senior students in Physics subject; and

3. To find out the preferred teaching methods in Physics of at-risk senior students.

1.3 Framework of the Study

This study valued the following theoretical and conceptual framework as its strong foundation of its proceedings.

Theoretical framework. This study is anchored on Anthony F. Gregorc's theory based on existence of perception. The model describes how the mind works. It evaluates the world by means of an approach that makes sense. These perceptions in turn are the foundation of specific learning strengths and teaching methods.

In this model, there are two perceptual qualities: 1) concrete and 2) abstract; and two ordering abilities: 1) random and 2) sequential. Concrete perceptions involve registering information through the five senses, while abstract perceptions involve the understanding of ideas, qualities, and concepts which cannot be seen. In regard of the two ordering abilities, sequential involves the organization of information in a linear, logical way and random involves the organization of information in chunks and in no specific order. Both of the perceptual qualities and both of the ordering abilities are present in each individual, but some qualities and ordering abilities are more dominant within certain individuals of themselves.

With respect to the present study, the perceptions are manifested by the learning strengths and preferred teaching methods in Physics of at-risk senior students in Biliran Division.

The model further stresses that everyone has all four of these qualities, but usually in different proportions. Some might be fairly well rounded and have more-or-less equal facility in all four modes, but most have a natural inclination to one or two.

Conceptual framework. This study anchored on the perceptions and preferred teaching methods in Physics of at-risk senior students in Biliran Division. To deeply appraise the intention of the study, it looked into the profile of the students in terms of age, sex, family size, highest educational attainment and occupation of parents.

1.4 Limitations of the Study

The study was a descriptive and qualitative research focusing on the perceptions and preferred teaching methods in Physics of at-risk senior students in Biliran Division. The perceptions and preferred teaching methods presented were limited to narrative analysis which was derived through survey and personal interviews

conducted by the researcher to the respondents.

Figure 1 presents the conceptual framework of the study.

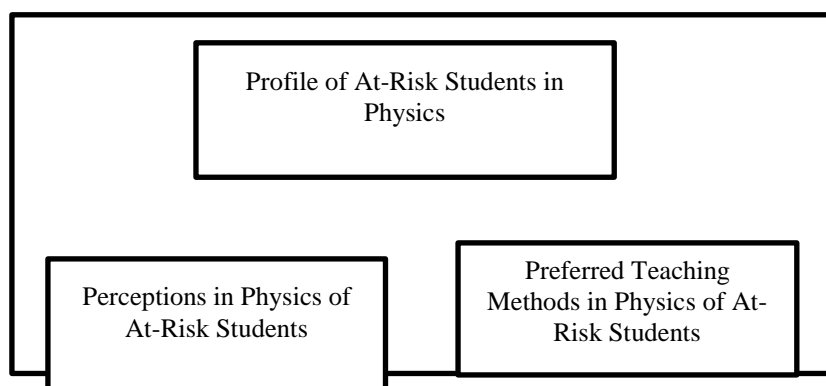


Figure 1: Conceptual framework of the study

The study involved a limited sample of 434 at-risk senior students in Physics, thus limiting the generalizability of the results of this study to a certain student group.

2. Methodology

This segment of the study discusses the methods used. It describes and discusses the research design, research locale, research subjects, research instrument, data gathering procedure, data scoring and statistical treatment of data.

2.1 Research Design

This study utilized the qualitative-descriptive research design. The researcher personally interviewed the at-risk senior students in Physics in order to elicit data like the highest educational attainment and occupation of their parents, and their perceptions and preferred teaching methods in the said subject. Narrations of the respondents were primarily the sources of data. Data were also derived through the use of a structured questionnaire like the age, sex and family size of at-risk senior students.

2.2 Research Locale

The study covered the entire Division of Biliran. However, considering the vast coverage of Biliran division in terms of area, only 8 high schools were considered in the research. The schools were selected according to size like big school (1), medium school (3), and small school (2). To completely represent the whole Division of Biliran, the only two (2) private high schools in the said division were included.

2.3 Research Subjects

For this study, respondents were composed of 434 at-risk senior students – those who got a rating of 30% and

below in their first periodic examination in Physics. The population of the respondents was determined during the preliminary interview with the Physics teachers.

Table 1 shows the distribution of student-respondents from the 8 high schools.

2.4 Research Instrument

A semi-structured questionnaire was used for the respondents. It was divided into three parts. Part I comprised questions about the profile of at-risk senior students in Physics such as age, sex, number of members in the family, highest educational attainment and occupation of parents. Part II solicited data about the perceptions of at-risk students towards Physics while Part III elicited information about the preferred teaching methods in Physics of at-risk senior students. To answer the doubt of language gap, the questionnaire was translated in the native dialect during the interview.

Table 1: Distribution of student-respondents

School	F	%
Cathedral School of La Naval ****	15	3.4
Lightbringer Learning Center ****	0	0
Manlabang National High School ***	159	36.6
Naval School of Fisheries **	71	16.4
Naval State University – Laboratory High School **	46	10.6
Tabunan National High School *	19	4.4
Tucdao National High School **	105	24.2
Viga National High School *	19	4.4
TOTAL	434	100

*small school

**medium school

***big school

****private school

2.5 Data Gathering Procedure

Permission and approval was sought by the researcher from the Schools Division Superintendent to administer and conduct the study. Consent from the respondents was asked before the interview. During the interview, respondents were individually asked for the purpose of generating accurate, reliable and valid data.

2.6 Data Scoring

Data were coded using the prescribed mode for coding qualitative outputs. From the open coding system, categories were identified as inputs for the discussion of results.

2.7 Statistical Treatment of Data

The data gathered were coded, analysed and interpreted using descriptive statistics such as range, frequency and per cent. Results were presented in tabular and narrative forms.

3. Results and Discussion

This portion of the study presents the results of the data gathered by the researcher. Said results are organized and presented with respect to the research objectives covering the profile of at-risk students and the highest educational attainment and occupation of their parents, perceptions toward Physics subject and preferred teaching methods in the said subject.

3.1 Profile of At-Risk Senior Students in Physics

The profile of the student-respondents that was considered in this study included the age, sex, family size, highest educational attainment and occupation of parents.

3.1.1 Age

Data on table 2 showed that more than half (69.1%) of the at-risk students belonged to the 15-16 years old category while almost one-fourth (22.8%) belonged to the 17-18 years old group. There were 26 (6%) and 9 (2.1%) who fall under the 19-20 and 21-24 years old categories respectively. This would imply that most at-risk students in Physics in the Division of Biliran were within the normal age bracket of a regular secondary student in Philippine setting.

Table 2: Age of at-risk students in Physics

Age	F	%
15-16 years old	300	69.1
17-18 years old	99	22.8
19-20 years old	26	6.0
21-24 years old	9	2.1
TOTAL	434	100

3.1.2 Sex

As shown in Table 3, there were almost equal numbers of male and female at-risk students, the former had 215 while the latter had 219. Data would imply that sex was not an identity of being an at-risk student in Physics in the Division of Biliran.

3.1.3 Family Size

The family size where an at-risk student came from was categorized into small (3-4 members), medium (5-7

members) and big (8 members & up).

Data on Table 4 revealed that almost half (45.4%) of the at-risk students in Physics came from a big family. Very close, that was 44.5% belonged to medium size while only 10.1% belonged to a small family. Data would show that most at-risk students in Physics in the Division of Biliran came from a big family. This would imply that the bigger the family a student came from, the greater is the tendency for him to become at-risk of failing the subject tending him to receive minimal or no support at all with respect to school needs.

Table 3: Sex distribution of at risk students

Sex	F	%
Male	215	49.5
Female	219	50.5
TOTAL	434	100

Table 4: Family size of at-risk students in Physics

Family Size	F	%
Small	44	10.1
Medium	193	44.5
Big	197	45.4
TOTAL	434	100

3.1.4 Highest Educational Attainment of At-Risk Students’ Fathers

Table 5 showed the highest educational attainment of at-risk students’ fathers.

More than one-fourth, that was 28.8% of the students’ fathers was elementary undergraduate. This was followed by fathers who were high school undergraduate (21.2%), high school graduate (18.2%), college graduate (12.7%), elementary graduate (10.8%), college undergraduate (7.4%) and no education at all (.9%). This meant that most of the at-risk students’ fathers in the Division of Biliran had a very low education. This would imply that the lesser is the educational attainment of the father, the greater is the chance of the student to become at-risk in failing Physics.

3.1.5 Highest Educational Attainment of At-Risk Students’ Mothers

Table 6 showed the highest educational attainment of at-risk students’ mothers.

Almost one-fourth, that was 23.5% of the at-risk students’ mothers were high school undergraduate. This was closely followed by mothers who were elementary undergraduate, 21.2% and high school graduate, 20%. Mothers who were college graduate marked 15.9%; elementary graduate marked 12%; college undergraduate, 6.7% then no education at all, .7%. Data revealed that most of the mothers of at-risk students in Biliran Division

had low education. Disclosing an almost similar finding with the fathers, data would imply that the lesser is the educational attainment of mothers, the greater is the chance of the students to become at-risk of failing Physics. This would mean further that students performance in the subject is influenced by the educational background of their parents.

Table 5: Highest educational attainment of at-risk students’ fathers

Highest Educational Attainment of Father	F	%
No Education	4	0.9
Elementary Undergraduate	125	28.8
Elementary Graduate	47	10.8
High School Undergraduate	92	21.2
High School Graduate	79	18.2
College Undergraduate	32	7.4
College Graduate	55	12.7
TOTAL	434	100

3.1.6 Occupation of At-Risk Students’ Fathers

Data revealed that almost one-fourth (24%) of the students’ fathers were farmers. This was closely followed by fathers who were fishermen (21%), then carpenters (12%), no occupation (9%), seamen (3%), labourers (2.5%) and businessmen (2.3%).

Table 6: Highest educational attainment of at-risk students’ mothers

Highest Educational Attainment of Mother	F	%
No Education	3	0.7
Elementary Undergraduate	92	21.2
Elementary Graduate	52	12.0
High School Undergraduate	102	23.5
High School Graduate	87	20.0
College Undergraduate	29	6.7
College Graduate	69	15.9
TOTAL	434	100

Fathers who were security guards, tricycle drivers and welders equally showed the same percentage (1.8%) for each then closely followed by construction workers and government employees with 1.6% and 1.4% respectively.

Disclosing equal percentage (1.2%) for each were fathers of at-risk students classified as food vendors, pedicab drivers, self-employed and taxi/van drivers while electricians marked 0.9%. Also disclosing equal percentage (0.7%) for each were fathers classified as barangay officials, barbers, masons, policemen, sales clerks and coconut wine gatherers.

Showing equal percentage (0.5%) for each were fathers of at-risk students classified as utility workers, truck drivers, teachers, overseas workers, midwives, jeepney/bus drivers, barangay police officers, bakers, municipal councillors and government soldiers.

Other occupations of fathers revealed by the students were buy and sell agent, chainsaw operator, furniture worker, hog raiser, electric lineman, motorcycle driver, painter, sales manager, salesman, surveyor, technician and waiter, showing an equal percentage (0.2%) for each.

Data revealed that most of the occupations of the at-risk students' fathers fall within the low-income category. This would imply that students received only less or no financial support at all in their school needs tending them to become at-risk of failing Physics subject.

Table 7 showed the occupation of at-risk students' fathers.

3.1.7 Occupation of At-Risk Students' Mothers

Table 8 showed the occupation of at-risk students' mothers.

Data showed that three-fourths (75.6%) of the students' mothers were *housekeepers*, followed by only a minimal percentage of mothers classified as *teachers* (3.7%), *food vendors* (2.5%), *laundry women* (2.3%), *saleswomen* (2.1%) and *government employees* (1.8%).

Revealing an equal percentage (1.4%) for each were mothers classified as *overseas workers*, *businesswomen* and *house helpers*, *barangay health workers* marked 1.2% while *dressmakers* and *self-employed* mothers marked an equal percentage (0.7%).

Mothers who were classified as *baby sitters*, *barangay officials*, *farmers*, *midwives* and *small store operators* equally marked 0.5% for each while the rest of the mothers included *accountant*, *bank employee*, *engineer*, *nurse*, *pharmacist*, *provincial treasurer*, *sales clerk*, *sea woman*, *cook*, *labourer*, *baker*, *cashier* and *shoemaker*, each equally marking 0.2%.

Considering that majority of the mothers were housekeepers, it can be gleaned that they did not contribute nor augment family income. This would imply that their lack of financial support could be one of the factors to the poor performance of their children tending them to become at-risk of failing Physics subject.

3.2 At-Risk Students' Perceptions in Physics Subject.

Table 9 showed the perceptions of at-risk students in Physics subject.

Table 7: Occupation of at-risk students' fathers

Occupation	F	%
Farmer	104	24.0
Fisherman	93	21.0
Carpenter	50	12.0
No occupation	40	9.0
Seaman	13	3.0
Labourer	11	2.5
Businessman	10	2.3
Security Guard	8	1.8
Tricycle Driver	8	1.8
Welder	8	1.8
Construction Worker	7	1.6
Government Employee	6	1.4
Food Vendor	5	1.2
Pedicab Driver	5	1.2
Self-Employed	5	1.2
Taxi/Van Driver	5	1.2
Electrician	4	0.9
Barangay Official	3	0.7
Barber	3	0.7
Mason	3	0.7
Policeman	3	0.7
Sales Clerk	3	0.7
Coconut Wine Gatherer	3	0.7
Utility Worker	2	0.5
Truck Driver	2	0.5
Teacher	2	0.5
Overseas Worker	2	0.5
Midwife	2	0.5
Jeepney Driver	2	0.5
Bus Driver	2	0.5
Barangay Police Officer	2	0.5
Baker	2	0.5
Municipal Councillor	2	0.5
Government Soldier	2	0.5
Buy and Sell Agent	1	0.2
Chainsaw Operator	1	0.2

Furniture Worker	1	0.2
Hog Raiser	1	0.2
Electric Lineman	1	0.2
Motorcycle Driver	1	0.2
Painter	1	0.2
Sales Manager	1	0.2
Salesman	1	0.2
Surveyor	1	0.2
Technician	1	0.2
Waiter	1	0.2
TOTAL	434	100.0

Data revealed that majority (64.3%) of the at-risk students considered Physics as a difficult subject while almost one-fourth (24.4%) of them considered the subject slightly difficult. Some of them perceived the subject as easy (4.8%), very difficult (4.6%) and very easy (1.8%).

The students found the subject to be difficult. Their dominant reason was that the subject involved more on problem-solving and mathematical computations.

This would imply that the students' perception in Physics as a difficult subject greatly contributed to their poor performance tending them to become at-risk of failing said subject.

3.3 At-Risk Students' Preferred Teaching Methods in Physics

Table 10 showed the preferred teaching methods in Physics of at-risk students.

Data revealed that there were 377 respondents who preferred lecture/discussion which is translated to national/native language as a teaching method for them to understand Physics; 266 respondents considered slow-paced lecture/discussion; 62 of them preferred the conduct of activities/experiments; 21 considered repeated lecture/discussion; and 11 considered the teaching method of giving more examples.

Only a minimal number of at-risk students preferred the following teaching methods: reporting (9), copying notes (5), assigning research work (4), giving students chance to discuss (1) and use of multimedia (1).

Data further showed that almost all at-risk students preferred lecture/discussion teaching method which would imply that said method is the best for them to understand and learn Physics specially if it is translated to the national/native language and slow-paced.

Table 8: Occupation of at-risk students' mothers

Occupation	F	%
Housekeeper	328	75.6
Teacher	16	3.7
Food Vendor	11	2.5
Laundrywoman	10	2.3
Saleswoman	9	2.1
Government Employee	8	1.8
Overseas Worker	6	1.4
Businesswoman	6	1.4
House Helper	6	1.4
Barangay Health Worker	5	1.2
Dressmaker	3	0.7
Self-employed	3	0.7
Baby Sitter	2	0.5
Barangay Official	2	0.5
Farmer	2	0.5
Midwife	2	0.5
Small Store Operator	2	0.5
Accountant	1	0.2
Bank Employee	1	0.2
Engineer	1	0.2
Nurse	1	0.2
Pharmacist	1	0.2
Provincial Treasurer	1	0.2
Sales Clerk	1	0.2
Sea Woman	1	0.2
Cook	1	0.2
Labourer	1	0.2
Baker	1	0.2
Cashier	1	0.2
Shoemaker	1	0.2
TOTAL	434	100.0

4. Conclusions

At-risk senior students in Physics in the Division of Biliran belonged to the normal age bracket (15-16 years

old) of a regular secondary student in Philippine setting. With respect to sex, it was not an identity for them being an at-risk student.

They came from big families whose parents had low educational attainment and occupations falling within the low-income category.

They perceived Physics as a difficult subject and preferred lecture/discussion as the best teaching method for them to understand and learn Physics.

Table 9: At-risk students' perceptions in Physics

Students' Perceptions in Physics	F	%
Difficult	279	64.3
Slightly Difficult	106	24.4
Easy	21	4.8
Very Difficult	20	4.6
Very Easy	8	1.8
TOTAL	434	100.0

Table 10: At-risk students' preferred teaching methods in Physics

At-Risk Students' Preferred Teaching Methods in Physics*	F
Lecture/Discussion is translated to national/native language	377
Slow-paced lecture/discussion	266
Conduct of activities/experiments	62
Repeated lecture/discussion	21
Giving more examples	11
Reporting	9
Copying notes	5
Assigning research work	4
Giving students chance to discuss	1
Use of multimedia	1

* Multiple response

5. Recommendations

Parents should exhaust all means to support the basic scholastic needs of their children and the government should intensify programs like scholarship grants to poor but deserving students and family planning that would address the needs on over population and poverty.

A strong basic elementary education should be implemented where skills have to be mastered at the lower level

to ensure quality graduates. Administrators should not adhere to mass promotion of pupils unless found to be qualified.

Multiple intelligences should be addressed at the classroom level especially with the diversity of learners. Teachers/facilitators should be aware of students' needs, concerns and preferences.

Since most at-risk students have no idea about how Physics helps them and its uses/applications, Physics teachers should orient the students with the advantages of the subject at the start of the school year before heading up with the topics.

References

- [1]. Castilla, Cristine Jean & Celestino, Reina Karen. Tricks and Games to Learn the Concepts of Newton's Laws of Motion. Unpublished Undergraduate Thesis Proposal. MSU-Iligan Institute of Technology, Iligan City, Philippines. 2008.
- [2]. Ang, Jayson V. Content Analysis of Physics Textbooks Used by Public Secondary School Teachers in Biliran Division. Unpublished Master's Thesis. Naval State University, Naval, Biliran, Philippines. 2010.
- [3]. Elby, Andrew. Helping Physics Students How to Learn. *American Journal of Physics*. Volume 69, Issue S1. 2001.
- [4]. Hermes, Amanda. Anthony Gregorc Learning Styles. eHow, Inc. 2010.
- [5]. Philips, Bobs. Teaching for Learning and Curriculum Continuity. Teaching for Learning in SOSE. School Education Division. 2004.
- [6]. Cox, Jonas & Sagor, Richard. At-Risk Students: Reaching and Teaching Them. Eye on Education, Inc. 2004.
- [7]. Haney, J. J., Czerniak, C. M. and Lumpe, A. T. Teacher Beliefs and Intentions Regarding the Implementation of Science Education Reform Strands. *Journal of Research in Science Teaching*. Volume 33, pp. 971-993. 1996.
- [8]. Kennedy, Rosa L. & Morton, Jerome H. *A School for Healing: Alternative Strategies for Teaching At-Risk Students*. New York. 1999.
- [9]. Sahyun, Steven. Investigating Learning Style Preferences for Conceptual Physics Students. University of Wisconsin-Whitewater. 2003.
- [10]. Admin. Need Help with your Physics Equations? 2009.
- [11]. Brahmia, Suzanne & Etkina, Eugenia. Emphasizing the Social Aspects of Learning to Foster Success of Students At-Risk. Rutgers University, New Jersey. 2001.

Appendix A

KEY INFORMANT'S INTERVIEW GUIDE

(For teacher-respondents)

Name:

School:

Address of School:

Total Enrolment of Physics Students:

Number of At-Risk Students:

1. Based on your observation, in what area in Physics subject that at-risk students find it difficult?
2. What do you think are the reasons/factors that made them at-risk of failing the subject?
3. In your opinion, how do you think these students perceive or understand Physics subject?
4. What do you think are the preferred teaching methods in Physics of at-risk students?
5. While teaching, how do you usually deal with these at-risk students in Physics?
6. Do you think these at-risk students still have the hope to overcome or pass the periodic exam? If no, why? If yes, in what ways?
7. Do you think these at-risk students still have the hope to overcome or pass the subject? If no, why? If yes, in what ways?

Appendix B

INTERVIEW GUIDE

(For student-respondents)

I. PERSONAL INFORMATION

Name:

Age:

Sex:

Number of members in the family:

Name of School:

Highest educational attainment of parents:

Father:

Mother:

Occupation of parents:

Father:

Mother:

First periodic test result in Physics:

II. PERCEPTIONS IN PHYSICS SUBJECT

How do you perceive Physics subject? (Check only)

Very Easy _____

Easy _____

Slightly Difficult _____

Difficult _____

Very Difficult _____

III. PREFERRED TEACHING METHODS IN PHYSICS

What are your preferred teaching methods in Physics? Why?