University of Perpetual Help System Laguna
City of Biñan, Laguna, Philippines
RESEARCH & DEVELOPMENT CENTER

REGISTRARS AS RESEARCHERS

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February 7, 2019

University of Perpetual Help System Laguna
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RESEARCH AND DEVELOPMENT CENTER

ACTION RESEARCH

➢conducted by one or more individuals or groups
➢aims at solving a problem or obtaining information in order to inform local practice
➢those involved in doing it generally want to solve day-to-day immediate problem

Elements of an Action Research Paper

1. **Abstract**- summarize your purpose, design, study findings and implications.
2. **Introduction**-state the problem and objective of the study.
3. **Methods**-discuss your study design including any instruments you will be using.
4. **Results and Discussion**-describe your findings and state the implications of your results to the existing body of knowledge.
5. **Conclusion**-summarize conclusive points.
6. **Proposed Action Plan**-align your proposed action plan with your findings.

ADVANTAGES OF ACTION RESEARCH

1. can be done by almost any professional, in any type of school, at any grade level, to investigate just about any kind of problem.
2. can improve educational or school practices
3. can develop more effective ways to practice the craft of teachers and other professionals
4. can help individuals identify problems and issues systematically
5. can build up small community of research-oriented individuals within the school itself.

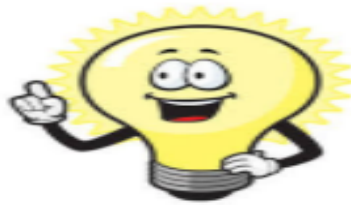
IN A NUTSHELL

❖Action research is a disciplined process of inquiry conducted *by* and *for* those taking the action.
❖The primary reason for engaging in action research is to assist the "actor" in improving and/or refining his or her actions.

Institute for the Study of Inquiry in Education

Why Conduct Researches?

1. A tool for building knowledge and facilitating learning
2. A means to understand various issues and increase public awareness
3. An aid to business success
4. A way to prove lies and to support truths
5. A means to improve practices, productivity, and performance
6. means to find, gauge, and seize opportunities
7. seed to love reading, writing, analyzing, and sharing valuable information
8. nourishment and exercise for the mind



TYPES OF ACTION RESEARCH

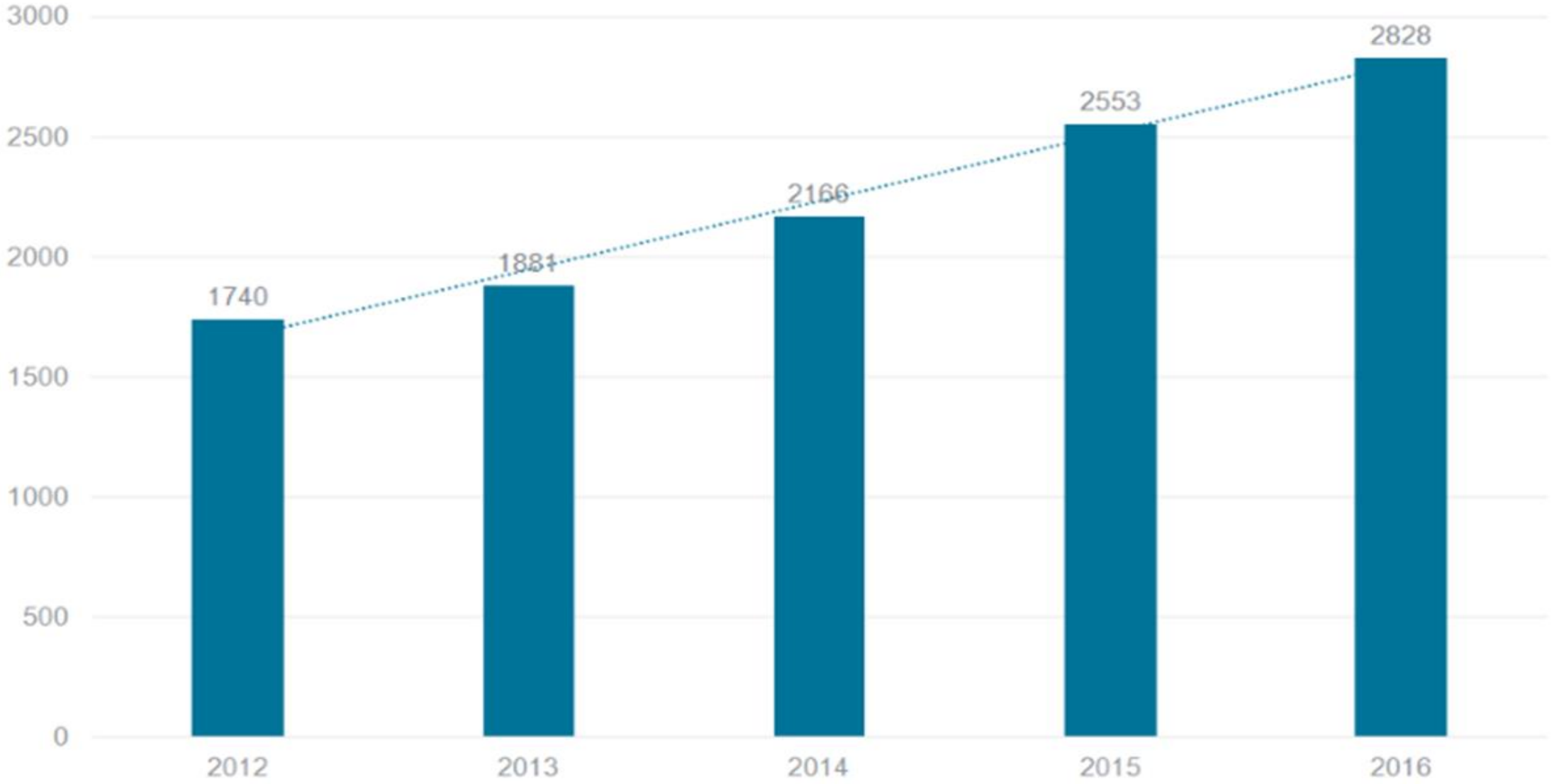
1. PRACTICAL ACTION RESEARCH
✓intended to address a specific problem within a classroom, school, or other community
✓to be maximally successful, this action should result in an **action plan** that ideally, will be implemented and further evaluated
2. PARTICIPATORY ACTION RESEARCH
✓aims at empowering individuals and groups to improve their lives and bringing about social change at some level
✓deliberately involves a sizeable group of people representing diverse experiences and viewpoints, all of whom focused on the same problem
✓intends to have intensive involvement of all stakeholders

ACTION RESEARCH PROCESS

PRESENTATION OUTLINE

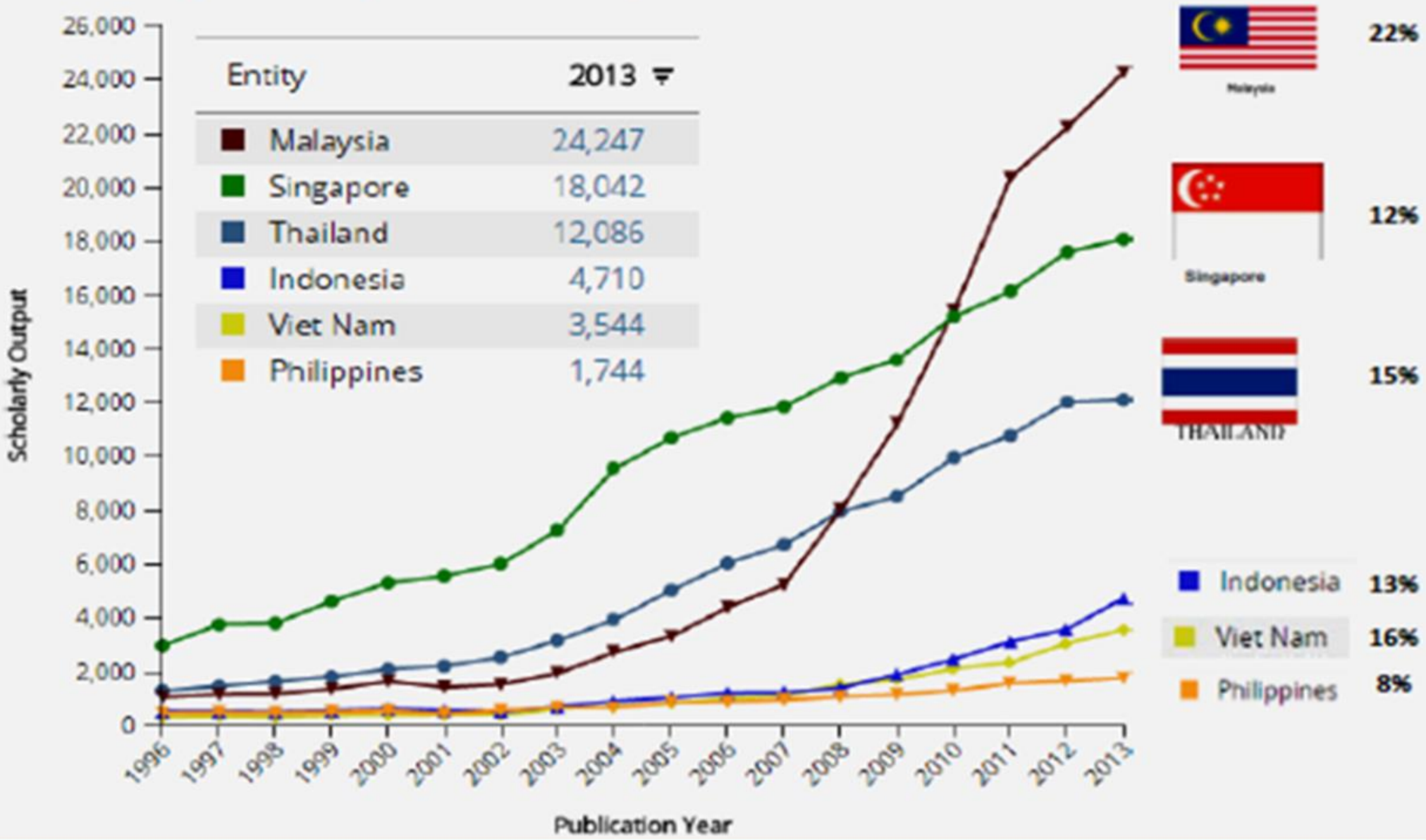
- Trend in research publication of the Philippines
- Perks of research conduct
- Scientific Method in research
- Action research defined
- Action research process
- Elements of action research paper

Philippines's Total Publications 2012 - 2016



Philippines's total Publication Output's Compound Annual Growth Rate is 10.2% (2012 – 2016)

Philippines vs South-east Asia Research Output – Malaysia's spectacular growth



WHY CONDUCT RESEARCHES?

A tool for building knowledge and facilitating learning

A means to improve practices, productivity, and performance

A means to understand various issues and increase public awareness

A means to find, gauge, and seize opportunities

An aid to business success

A seed to love reading, writing, analyzing, and sharing valuable information

A way to prove lies and to support truths

A nourishment and exercise for the mind

1. A tool for building knowledge and facilitating learning

- reading books and online articles written by educators
- listening to experts
- watching documentaries or investigative shows
- conducting scientific experiments
- interaction with other people

2. A means to understand various issues and increase public awareness

Bariso (2017) states: "Oprah spends a disproportionate amount of her time gathering information from communities of people outside of her core (different age groups, social classes, ethnicities, education levels, careers, etc.) and then she shares that information within her community."

3. An aid to business success

Different business industries with science and engineering processes have high R&D expenditure because it is critical to product innovation and to improving services in:

agriculture	food and beverage
manufacturing	healthcare and pharmaceuticals
computer software	semiconductor
information and communication technology	construction
robotics	aerospace
aviation	energy

“INNOVATION IS THE ONLY WAY TO WIN.”

Steve Jobs

founder of Apple

wazoku

4. A way to prove lies and to support truths

5. A means to improve practices, productivity, and performance

6. A means to find, gauge, and seize opportunities

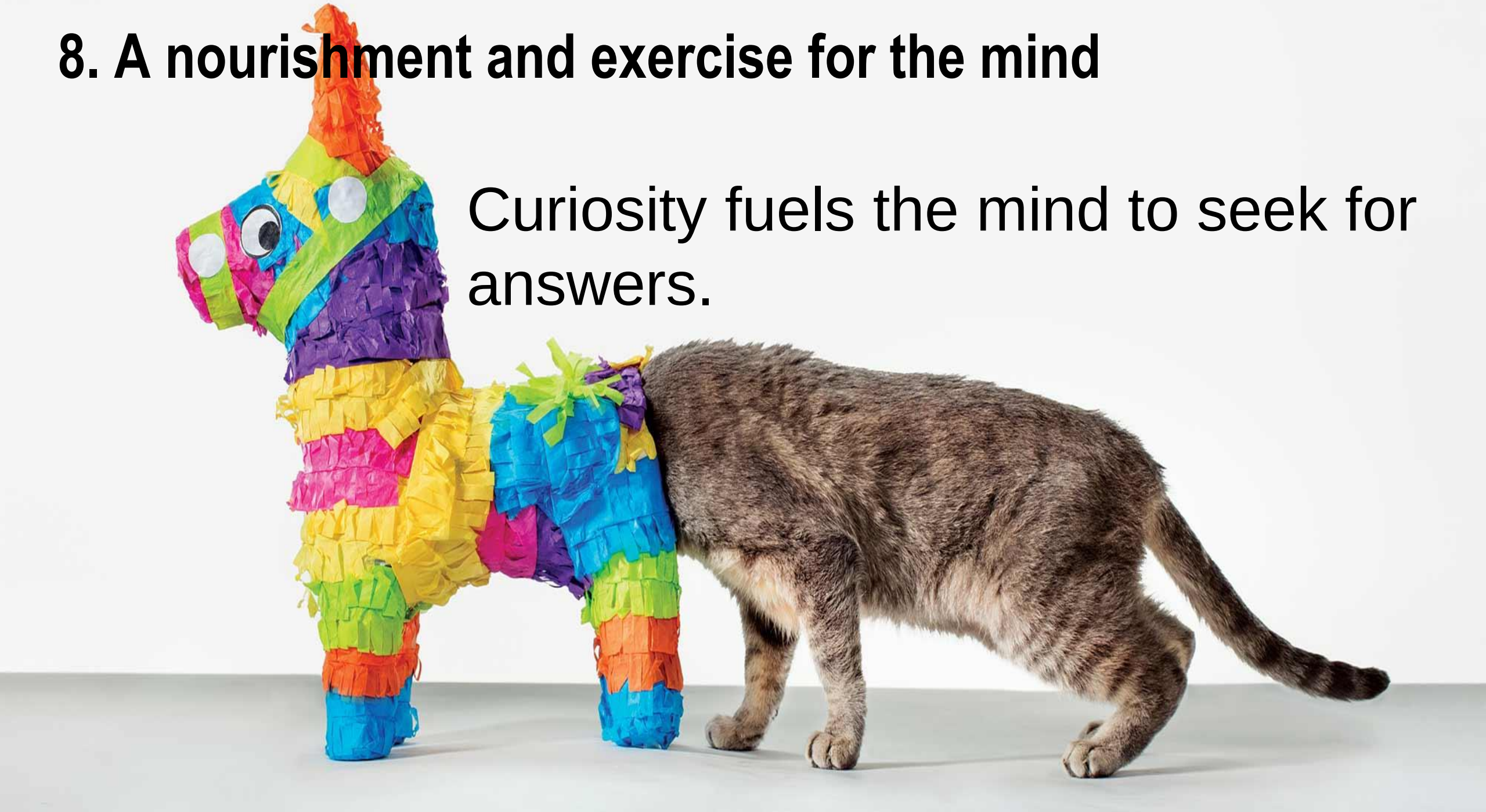
Research helps people nurture their potential and achieve goals through various opportunities.

- securing employment
- budget traveling
- scholarships
- business collaboration
- project funding
- training grants

7. A seed to love reading, writing, analyzing, and sharing valuable information

8. A nourishment and exercise for the mind

Curiosity fuels the mind to seek for answers.



SCIENTIFIC METHOD IN RESEARCH

Testing ideas in the public arena

Making connections

Seeing relationships

Building associations

Examples:

- Students are less attentive in lecture than on discussion.
- People who sleep between six and eight hours are less anxious and more productive than those who sleep more or less than the said amount.
- Students read less because of much time watching television.
- Graduating students tend to be more careful and compliant of school works as they near graduation.
- Non-teaching personnel who engage in wellness program are more productive than those who do not.
- Registrars with teaching experience perform better in records management

ACTIONS AND WORDS

DIEGO- Yahoo! (isigaw); (tumayo habang nakataas ang kanang kamay)

KABAYO- Tigidig-tigidig (isigaw, tumayo habang pumapadyak ng 6 na beses)

KASTILA- Viva España! (tumayo, isigaw ng 3 beses habang nasa kaliwang dibdib ang kanang kamay, at muling umupo)

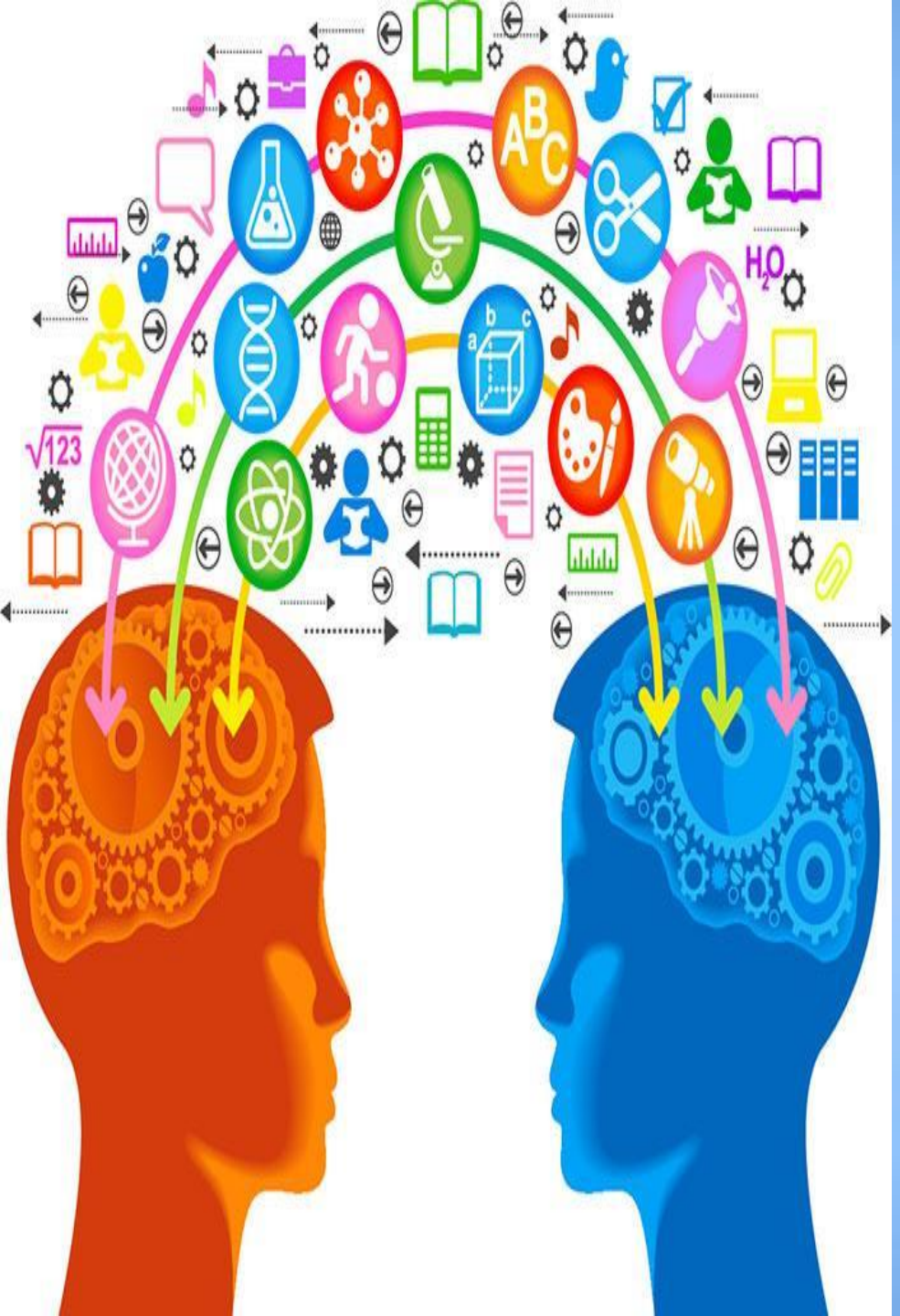
KATIPUNERO- Su…god! (isigaw nang malakas); (sabay padyak, tumayo at umupo)

Isang araw nakasakay si Diego sa kanyang kabayo kasunod ang maraming Katipunero na nakasakay rin sa kabayo. Sa kanilang paglalakbay habang nakasakay sa kabayo may namataan silang mga Kastila.

Nagtago si Diego. Nagtago rin ang mga Katipunero kasama ang mga kabayo. Habang palapit ang mga Kastila, sinalakay ni Diego at nang iba pang mga Katipunero na nakasakay sa kabayo ang mga Kastila. Maraming namatay na Kastila pero mas maraming nasawing Katipunero na nakasakay sa kabayo. Pati si Diego na nakasakay sa kabayo ay hindi pinalad.

Pati ang kabayo ni Diego ay umiiyak dahil sa pagkamatayniya. Mabuhay si Diego at ang kanyang kabayo at mga Katipunero.

Patay na si Diego. Wala na si Diego. Pumanaw na si Diego. Ang kawawang si Diego.



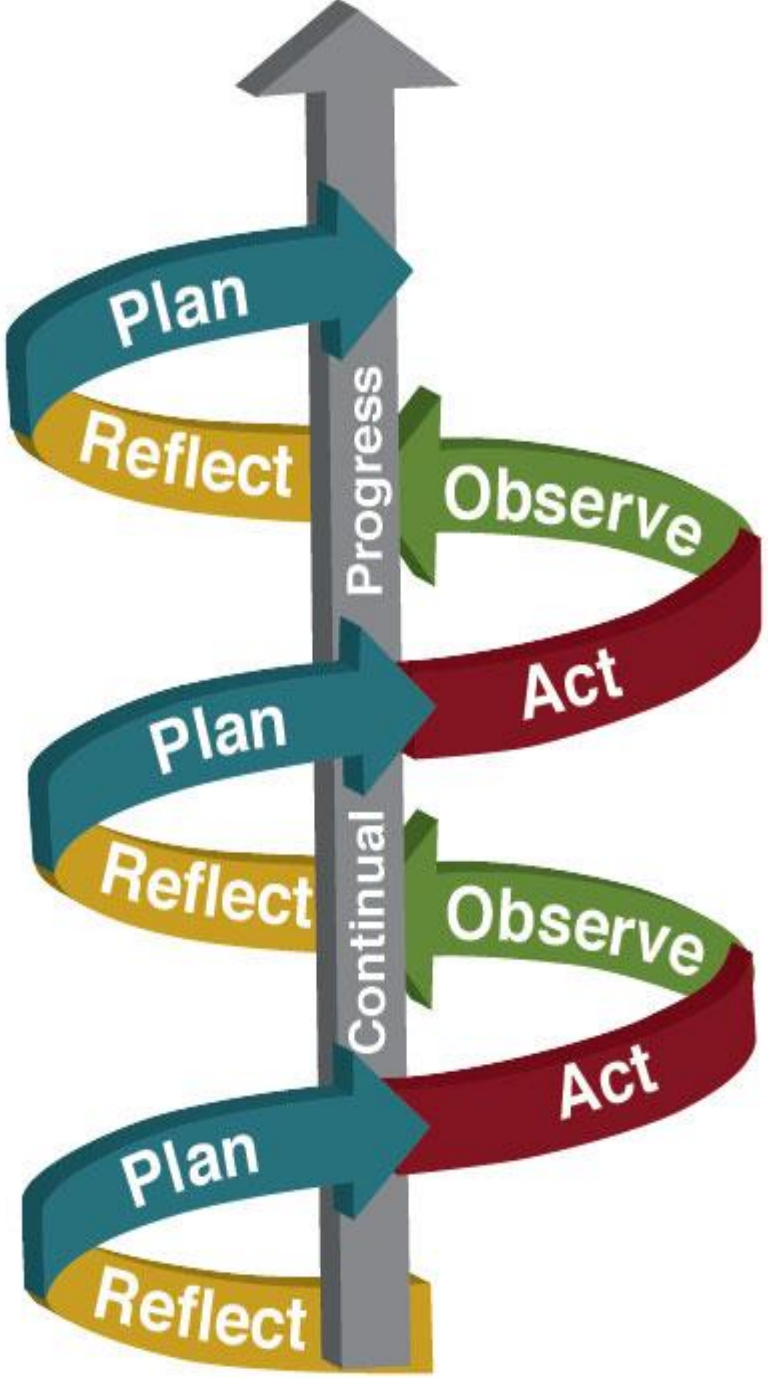
What is action research?

- conducted by one or more individuals or groups
- aims at solving a problem or obtaining information in order to inform local practice
- those involved in doing it generally want to solve day-to-day immediate problem
- conducted to resolve an immediate problem or a reflective process of progressive problem solving led by individuals working with others in teams or as part of a "community of practice" to improve the way they address issues and solve problems.

Questions for Action Research

- What kind of methods work best with what kinds of students?
- How can teachers encourage students to think about important issues?
- How can subject matter be presented so as to maximize understanding?
- What can teachers and administrator do to increase the interest of students in schooling ?
- What can counselors do?
- What can other educational professionals do ?
- How can parents become more involved?
- How can records management practices be improved?
- How can customer satisfaction be improved?

Action Research	Non-Action Research
Systematic inquiry.	Systematic inquiry.
Goal is to solve problems of local concerns.	Goal is to develop and test theories and to produce knowledge generalizable to wide population
Little formal training required to conduct such studies	Considerable training required to conduct such studies
Intent is to identify and correct problems of local concern	Intent is to investigate larger issues
Carried out by teacher or other local educational professional	Carried out by researcher who is not usually involved in local situation
Uses primarily teacher-developed instruments	Uses primarily teacher-developed instruments
Less rigorous	More rigorous
Purposive samples selected	Random samples usually preferred.
Selective opinions of researcher often considered as data.	Selective opinions of researcher never considered as data
Generalizability is very limited.	Generalizability often appropriate.



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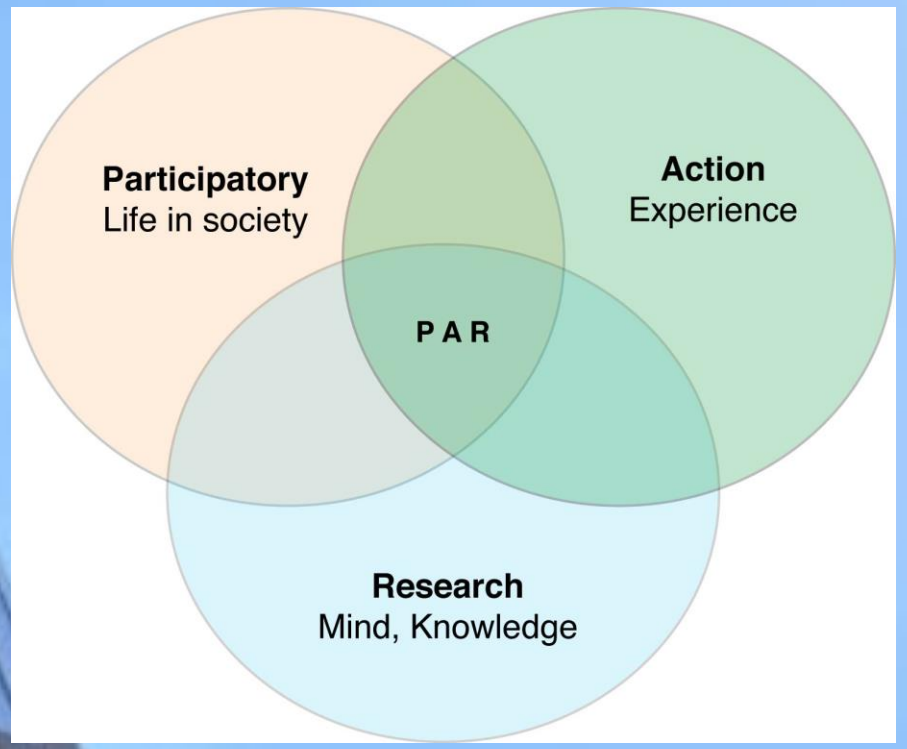
TYPES OF ACTION RESEARCH (continued)



2. PARTICIPATORY ACTION RESEARCH

- ✓ aims at empowering individuals and groups to improve their lives and bringing about social change at some level
- ✓ deliberately involves a sizeable group of people representing diverse experiences and viewpoints, all of whom focused on the same problem
- ✓ intends to have intensive involvement of all stakeholders

ACTION RESEARCH PROCESS

1. SELECTING A FOCUS
2. CLARIFYING THEORIES
3. IDENTIFYING RESEARCH QUESTIONS
4. COLLECTING DATA
5. ANALYZING DATA
6. REPORTING RESULTS
7. TAKING INFORMED ACTION

1. SELECTING A FOCUS

- What element(s) of our practice do I wish to investigate and improve?

2. CLARIFYING THEORIES

- What ideas, beliefs, and theoretical perspectives do I hold relating to my focus?

3. IDENTIFYING RESEARCH QUESTIONS

- What are the personally meaningful research questions to guide the inquiry do I have?

4. COLLECTING DATA

- Will I interview customers and stakeholders through focus group discussion or one-on-one session? Will I conduct surveys? Will I collect, review and analyze documents?

5. ANALYZING DATA

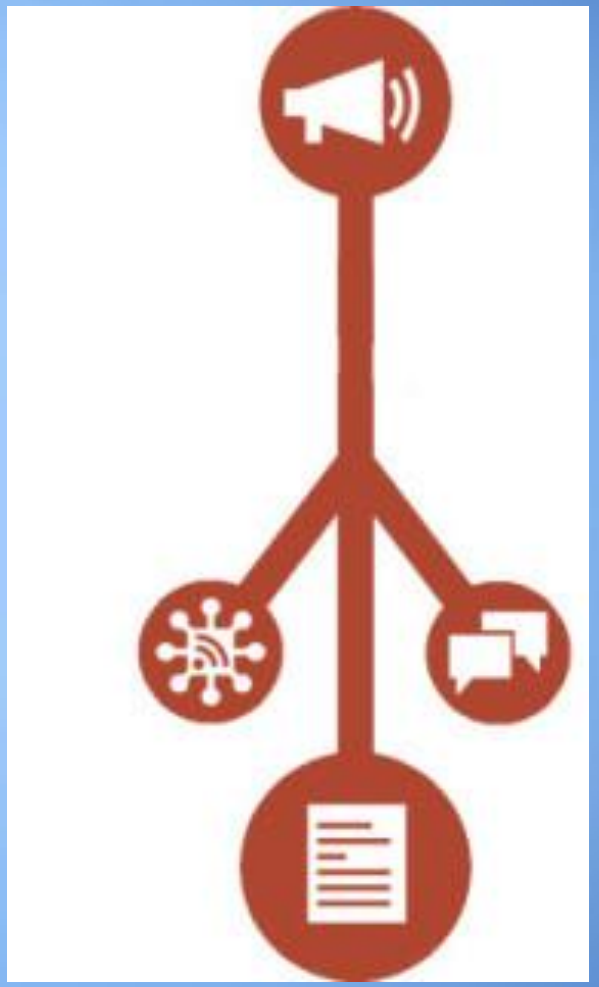
- What is the story (fact-based) told by these data?
- What these data imply in our practices? How can these data be used to improve our practices?

6. REPORTING RESULTS

- Will I report my action research results in informal settings that are far less intimidating than the venues where scholarly research has traditionally been shared? Will I share it during faculty meetings? seminars? teacher conferences? Will I publish my research report?

7. TAKING INFORMED ACTION

- How can the results help me formulate an action plan?



Elements of an Action Research Paper

PARTS	DESCRIPTION	
Abstract	Summarize your purpose, design, study findings and implications.	Use 200-250 words.
Introduction	State the problem and objective of the study.	Review relevant literature and the claim why your study has to conducted.
Methods	Discuss your study design including any instruments you will be using.	Outline the strategy you will use to analyze the data.
Results & Discussion	Restate your research question Discuss your findings in the context of your overall question as well as previous literature and research.	Describe your findings. State the implications of your results to the existing body of knowledge.
Conclusion	Restate your thesis.	Summarize conclusive points.
Proposed Action Plan	Align your proposed action plan with your findings.	Provide the details of an action plan.

Licensure Examination Performance Evaluation of the Candidate Engineers as Basis for a Proposed Action Plan

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Date Received: January 26, 2017; Date Revised: April 11, 2017

Abstract *– This study evaluated the performances of the candidate engineers of the College of Engineering (COE) of the Tarlac State University (TSU) in the licensure examinations. The results of the four-year (2008-2011) licensure examinations of the graduates of the COE with specialization in the fields of civil, electrical, electronics, and mechanical engineering were covered in this study.*

The research methods used in the study were descriptive and analytical approaches. The Engineering graduatestook the board examination during the same year or not more than one year from the time of their graduation. Candidates who took the board examination more than once and/or beyond one year from the date of their graduation were not included in this study.

The statistical methods used in this study were the descriptive and inferential statistics. The analysis

Abstract

- *This study evaluated the performances of the candidate engineers of the College of Engineering (COE) of the Tarlac State University (TSU) in the licensure examinations. The results of the four-year (2008-2011) licensure examinations of the graduates of the COE with specialization in the fields of civil, electrical, electronics, and mechanical engineering were covered in this study.*
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- *The statistical methods used in this study were the descriptive and inferential statistics. The analysis of variance was used to determine the variation among the four-yearlicensure examination performances of the candidate engineers.*
- *The study revealed that there was no significant difference among the four-year licensure examination performances of both the civil and mechanical engineer candidates. In contrast, the electrical and electronics engineer candidates' performances significantly differed within the evaluation period.*
- *The mechanical engineers candidates performed best among the four courses in the licensure examination.*

- **Keywords:** *Candidate Engineer*

INTRODUCTION

Engineering educators of the Philippines pose a substantial concern for globalization of service. In this case there will be free flow of service among countries and therefore professional services have to be liberalized. Due to the increasing importance of human services, an appropriate move has to be done in order to stress the greater impact and promotion of engineering education for globalization. In this age of globalization, modern professionals are challenged to learn, analyze and innovate. A key to globalization is sustaining knowledge-based education through interdisciplinary ways [1].

The Licensure Examination for Engineers is a tool that measures and ensures the quality of engineers who would join the workforce of various manufacturing industries in the Philippines and abroad. The Professional Regulations Commission (PRC) as the duly constituted body created for this function has been consistent in its task of screening who among the graduates from all board courses will be granted the professional licenses based on the board exam results [2].

Professional regulation impacts the lives of the 2.4 million registered Filipino professionals from 42 various fields and the hundreds of thousands of aspiring professionals who take the licensure examinations every year. More so, PRC affects the lives of every Filipino relying on the services of the professionals [3].

Passing the licensure examination given by the PRC is one of the greatest achievements in one's life. This examination is intended to prove the graduates' knowledge, progress, skills and qualification in a particular profession. It needs a lot of time to study, to have self-discipline, patience and determination and these will not be possible without prayers, support and encouragement [4].

Claim and Evidence Format of writing reviews

- As the pressure of making ends meet intensified and made an impact on families, women felt the need to contribute to the family‟s finances. They began to explore opportunities outside the home that would bring in additional income and help augment the husband‟s capacity to provide for the family. They began to engage in occupations and roles previously regarded as the sole prerogative of men [1].

*Claim in red

Hind, T. (2016) How the role of women has changed in the workplace over the decades – and are we in a better place today? Retrieved January 23, 2019 from : https://goo.gl/THRSJy.

Claim and Evidence Format of writing reviews

An individual's career choice may be strongly influenced by the values that he or she holds. Recent study provides evidence for the importance of values in individual's choosing of careers. Individuals tend to choose jobs that have similar value contents to their own value orientations (Judge & Bretz, 1992). In addition, some evidence show that the ordering of values has an important influence on occupational preference (Cochran, 1986).

*Claim in red

Liu, Y., & Lei , Y. (2012). The Connotation of Work Values: A Preliminary Review, *Asian Social Science*, 8(1), 47-53

Claim and Evidence Format of writing reviews

The proliferation of internet-based platforms poses another challenge for records management system. The impact of the Internet and related social media, such as wikis, blogs, forums, and companies such as Facebook and Twitter, on traditional records management practices, principles, and concepts, has become issue of great interest to records managers since many of these tools allow rapid creation and dissemination of records and, often, even in anonymous form [1].

*Claim in red

Yeo, G. (2007). "Concepts of Record (1): Evidence, Information, and Persistent Representations". *American Archivist*. **70** (2): 315–343. doi:10.17723/aarc.70.2.u327764v1036756q.

Objectives of the Study

- The present study is focused on evaluating the licensure examinations performance of the candidate engineers of the TSU College of Engineering with specializations in civil, electrical, electronics, and mechanical engineering. Specifically, it aimed to: determine the performances of the candidate engineers in the licensure examination in terms of rating distribution per course, average performance per subject area, passing performance; test the significant variation among the performances of the candidates from 2008 to 2011 in the engineering licensure examination; and determine the plan of action can be proposed to improve the performances of the candidate engineers in the licensure examinations.

In an academic setting, it is the responsibility and accountability of the members in the academic system to ensure the success of their graduates [5]. This would be accomplished through the adoption of appropriate engineering education and experience requirements as prerequisites for licensure [6].

The performance of the student in every institution plays a very important role in determining the quality of education, which eventually guarantees the efficiency and effectiveness in application in a chosen profession or career. It suggests a higher standard of performance of the instructional system.The performance of the student in the licensure examination reflects the institution's efficiency as well as the intellectual capacity of the student [4].

Understanding the trend in licensure performance of the candidate engineers may shed light on the status of the program as well as the needs of the studentsfor them to pass their respective board examination. The analysis ofvarianceoftheir performances in the licensure examination can statistically prove whether their performance remained the same or may have increased/decreased during the four year evaluation examination; and determine the plan of action can be proposed to improve the performances of the candidate engineers in the licensure examinations.

METHODS

The research methods used in the study were the descriptive and analytical approaches. The subjects of the study were the College of Engineering graduates with specialization in civil, electrical, electronics and mechanical engineering. The Tarlac State University graduates took the board examinations during the same year or not more than one year from the time of their graduation. Candidates who took the board examinations more than once and/or beyond one year from the date of their graduation were not included in this study.

The board examination performances of the engineer candidates were acquired from the Professional Regulatory Commission (PRC) through the Dean of the College of Engineering. For ethical consideration, all necessary procedures in acquiring the board examination results were strictly adhered to by the researchers. Likewise, the names and board examination results of the subjects of this study were

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The present study is focused on evaluating the licensure examinations performance of the candidate engineers of the TSU College of Engineering with specializations in civil, electrical, electronics, and mechanical engineering. Specifically, it aimed to: determine the performances of the candidate engineers in the licensure examination in terms of rating distribution per course, average performance per subject area, passing performance; test the significant variation among the performances of the candidates from 2008 to 2011 in the engineering licensure

RESULTS AND DISCUSSION

Performance of the Candidate Engineers in the Licensure Examination

The rating distribution per course, average performance per subject area, and passing performance of the TSU first time takers of the licensure examinations in engineering specializing in civil, electrical, electronics and mechanical engineering are presented in the succeeding discussions.

Table 2. Average Performance per Subject Area

Subject	Civil	Electrical	Electronics	Mechanical
1	69.78	63.62	68.42	75.30
2	69.14	62.21	69.81	80.30
3	60.75	63.24	62.23	70.84
4	-	-	63.56	-
Overall	66.43	63.06	66.01	75.71

As presented in Table 3, the civil, electrical, as well as the electronics engineer candidates in the licensure examinations attained an average rating below the passing mark in all subject areas. Only the candidates in the mechanical engineering licensure examinations attained an average rating of 70 percent and above in all subject areas.

Overall, the candidates in mechanical engineering had the highest average performance in the licensure

Analysis of the Performances of the Candidates in the Licensure Examination

Presented in Table 4 is the average performance of the candidate engineers in the field of civil engineering. As can be observed in the table, the candidate engineers' performance from 2008 to 2011 significantly increased but still below the average passing mark of 70 percent.

Table 4.Average Performance per Subject Area in Civil Engineering Licensure Examination

Subject Area	Examination Year			
	2008	2009	2010	2011
Mathematics, surveying and transportation engineering	61.47	67.23	76.44	71.18
Hydraulics & geotechnical engineering	61.05	68.68	67.20	75.38
Structural engineering and construction	63.00	66.27	60.00	56.47
Overall Performance	61.88	67.33	67.91	67.29

In Table 5, the average performance of the

Table 8. Average Licensure Performance of the Candidate EngineersPer Year

Year	Civil	Electrical	Electronics	Mechanical
2008	61.88	63.86	71.69	80.09
2009	67.33	61.81	71.05	71.97
2010	67.91	54.14	62.39	74.34
2011	67.29	69.66	63.05	77.97
Overall	66.43	63.06	66.01	75.71

In Table 9, the results of the analysis of variance on the four-year licensure examination performances of the candidate engineers is presented.

Table 9.Analysis of the Overall Performances of the Candidate Engineers

Course	Computed F - value	Critical F-Value	Decision
Civil	0.77200	2.69939	Accept Ho
Electrical	11.56988	2.693721	Reject Ho
Electronics	6.122244	2.691979	Reject Ho
Mechanical	2.117476	2.838745	Accept Ho

The results revealed that the performances of the civil engineer candidates did not significantly differ in

review.

The lack of college retention policy may have contributed to the poor performance of the graduates in the licensure examination. Upon investigation of the researchers, there are cases wherein students have failed several subjects repeatedly but are still maintained in the college.

The performance comparison among the licensure examination results of the mechanical engineer candidates revealed that there is no significant difference among their performancesin the four year period. This means that the performances of the mechanical engineer candidates were comparable per examination year. The average performance of the candidate engineers in the field of mechanical engineering is above the passing mark of 70 percent. This can be attributed to the low number of students enrolled in the program. Less than 20 students are in their fourth and fifth year. With the limited number of students, faculty members can coach the students properly in their respective specialized classes or major subjects.

Proposed Plan of Action

In Table 10, the proposed plan of actions to improve the performance of the candidate engineers in the licensure examination is presented.

CONCLUSION

- The mechanical engineer candidates out-performed the civil, electrical, as well as the electronics engineer candidates in terms of their average passing performance.
- The candidates in the mechanical engineering licensure examination had the highest average performance with a 75.71 rating. Overall, the civil and mechanical engineer candidates performed above the average national passing rate.
- On the other hand, both the electrical and electronics engineer candidates had average passing rates but below the average national passing percentage.
- There is no significant difference among the four-year licensure examination performances of both the civil and mechanical engineer candidates. In contrast, the electrical and electronics engineer candidates' performances significantly differed within the evaluation period.

Strategy	Brief Description
1. Curriculum review on the engineering courses	The dean, chairpersons, and faculty members of the different departments of the college may review to improve the curriculum on a regular basis and they ensure that the quality of instruction is on the rise.
2. Review of the college retention policy	The dean, chairpersons, and faculty members may establish a retention policy that includes recruitment of quality students into the engineering department and the continuous attempt to improve the quality of those already enrolled in the department through quality instruction by the faculty.
3. Practice or mock board examination for graduating students	The department chairs, with the approval of the college dean, may encourage the faculty members to administer a practice or mock board examination to graduating students. This can be used by the students as basis on their possible performance in the actual board examination.
4. Coaching on how to pass the licensure examination	The department chairs, with the approval of the college dean, may encourage the faculty members to administer relevant coaching sessions after the administration of the practice or mock board examination to graduating students.
5. Conduct of bench marking in high performing schools	The dean, chairpersons, and faculty members may conduct bench marking activities in high performing schools in the licensure examination for them to replicate the identified best practices.

Activities	Objectives	Time Frame	Persons Involved	Expected Outcomes	Budget Allocation	Sources of Fund	Success Indicators
1. Classroom seminar on self-awareness, disclosure and self-direction	To develop among students a sense of discipline and responsibility and to create a better understanding about social relationships	June 2019	Guidance Counselors, Principal, Classroom Advisers and Students	Self-awareness and improved classroom relationships that value discipline, determination and academic performance	Php2,000.00	Canteen Fund/ Donation from other stakeholders (e.g. PTCA)	80% of the target participants attended the activity.
2. Individual or group counseling to walk-in or referred student	To provide students with the assistance they need in their emotional, psychological, spiritual and academic-related problems.	All year round	Guidance counselors, homeroom advisers, walk-in or referred students	Properly monitored self-determined students	Php2,500.00	Canteen Fund/ Donation from other stakeholders (e.g. PTCA)	60% of the counseled students have improved academic performance.
3. Individual Inventory	To gather and update specific data regarding each student for guidance and counseling purposes	June-August 2019	Guidance Counselors, Principal, Classroom Advisers	Updated and reliable student profile and records of their disciplinary status (if any) and academic standing	Php20,000.00	Canteen Fund/ Donation from other stakeholders (e.g. PTCA)	100% of the students have individual inventory form
4. Group counseling	To help	Sept.-Nov.	Guidance	Improved and	Php10,000.00	Canteen Fund/	60% of parents or

TASK

- List down possible action research topics that concern registrars and registrars offices.
- Share your output with others.

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Institute for the Study of Inquiry in Education