



Body of Knowledge Physiotherapy

Heri Priatna

APTIFI National Congress
Hotel Multazam Solo
18 – 19 Januari 2018

Health Services History

2000 – 600 BC
Ancient

Disease : Soul was stolen, foreign elements in the body.
Healing: Magic & liquid expelled from the body.

600 – 200 BC
Clasical

Disease: Movement of our Galaxy
Healing: Minerals and herbals
Hipocrates: Diet, fresh air, massage, surgery etc

200 – 1200 AD
Darkness

Disease: Trial and cursed from God.
Healing: Church gathered to heal the sick.

1200 – 1600 AD
Enlightenment

Development of science; microscope and medicine were found

1600 – Now
Modern

Advance tech ; cell theory & DNA were found
Disease: was caused by bacteriy/Micro organism
The way of treatment: was by healing Caused
Rest : was also the key to restore
Negative effect having to much rest; complication
.... The role of PT is Crusial

Historical Of Physiotherapy Services in Indonesia

1. 1956 : Masseur + PT Assistance
2. 1964 : 2001 : Diploma-3 PT (Solo)
3. 2001 : Diploma-4 PT was establish (Esa Unggul)
4. 2008 : S-1 PT was establish (Unhas) ... 44 years
5. 2018 : 63 PT Education Program
 - * 38 Diploma-3 level
 - * 10 Diploma-4 level
 - * 11 Strata-1 level
 - * 4 Profession level

There is a big potential to up-grade to next level

The Foundation of Knowledge: Ontology, Epistemology and Axiology

1. **Ontology (field of study)**
Ontology to discuss about what we want to know or in other word is a study or an analyzing process of a theory.
The basic of ontology is related with materials which become the object of learning the knowledge.
Knowledge begins with doubt and not with certainty (in contrary with religion)
Ontology produces the discipline of knowledge.
In the beginning there was only philosophical system.

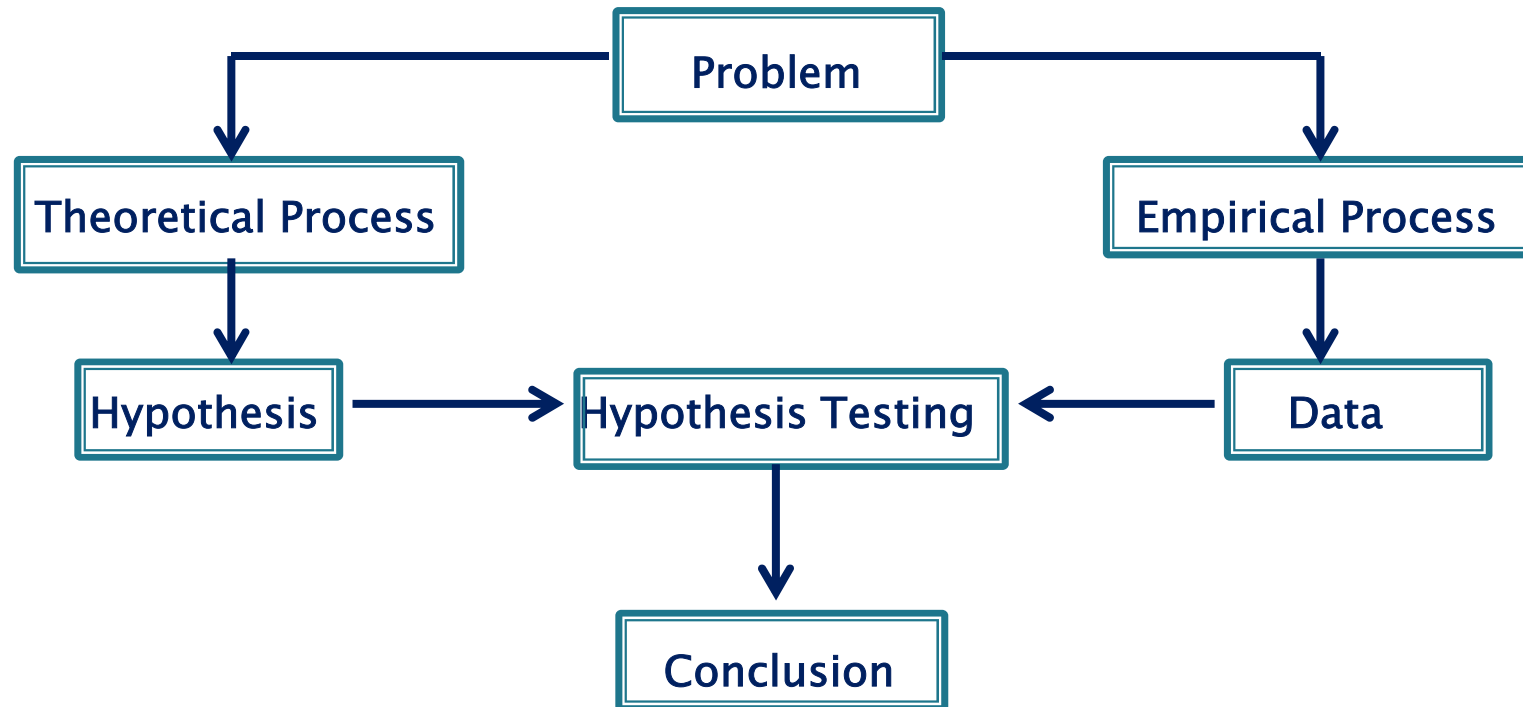
The Foundation of Knowledge: Ontology, Epistemology and Axiology

Ontology in PT Science:

- ▶ Human as an object of material.
- ▶ Movement and function as a formative object.
- ▶ Postulate: Human has some needed
- ▶ PT principles : to maximize potential movement or minimize the gap of actual movements and functional movements.
- ▶ Assumption: Individual or human has movement potential.

The Foundation of Knowledge: Ontology, Epistemology and Axiology

2. Epistemologi
knowledge is a process that base on theoretical pillars and empirical.
Knowledge Process (experiments): Epistemological knowledge standard



Development of PT knowledge:
Theory – Practice – Research

The Foundation of knowledge: Ontology, Epistemology and Axiology

1. Continuum movement: biomechanics–kinesiology
2. Activities/functional movement: mechanical body, therapeutic practices, ergonomics.
3. Therapeutic technology : massages, microwave, laser.... (Superficial – deep tissue)
4. Conceptual approach: Bobat, William, Mc.Kenzy, Maitlan, Cailliet, Kaltenbon, Mulligan
5. Sensomotor : controlling the sensory and motor functions, behavior, wellness.
6. Social influence: communication and environment knowledge.
7. Cultural influence: moral, rules and norms.

The Foundation of knowledge: Ontology, Epistemology and Axiology

RI Law (Constitution) No 12 /2012 regarding higher education

Curriculum group :

1. Religious Science group
2. Humanities/Humaniora science group
3. Social Science group
4. Physical Science group
5. Formal Science group
6. Applied Science group

These higher education studies are transformed, developed and distributed through Tridharma.

The Foundation of knowledge: Ontology, Epistemology and Axiology

3. Axiology

Axiology discusses the benefits of knowledge for humankind.

When human learned about atom energy, we found out that we could use it as a source of energy. However, the same energy could produce human catastrophes.

Science must benefits people, it means that everyone has a right to enjoy the benefits.

An example of scientific researched that we could enjoy now is rice that we eat everyday.

Physiotherapy Science

Physiotherapy is a combination of biophysics, psychology, social and other branches of knowledge to promote, prevent, interfere and recover disability of movement and function including the use of physical resources in the healing process such as: exercises, manipulating techniques, cold, hot and also electrotherapeutic modalities.

One of the characteristics of this profession is a clear theoretical body of knowledge and an educational institution that can satisfy knowledge characteristics with dimensions and scientific values.

Characteristics and Specifications of Physiotherapy

1. Material objects

The material object of Physiotherapy is human with problems in motion and functioning in the context of one's health conditions and the process of increasing individual health condition in doing everyday activities.

2. Formative objects

Forma Object of Physiotherapy is the effort to overcome problem in motion and functioning in the context of one's health condition and the process of increasing individual health condition in doing everyday activities.

Characteristics and Specifications of Physiotherapy

3. Postulate

Postulate is human with motion problems and function in the context of health in general and the process of increasing one's health in doing daily activities.

4. Principle

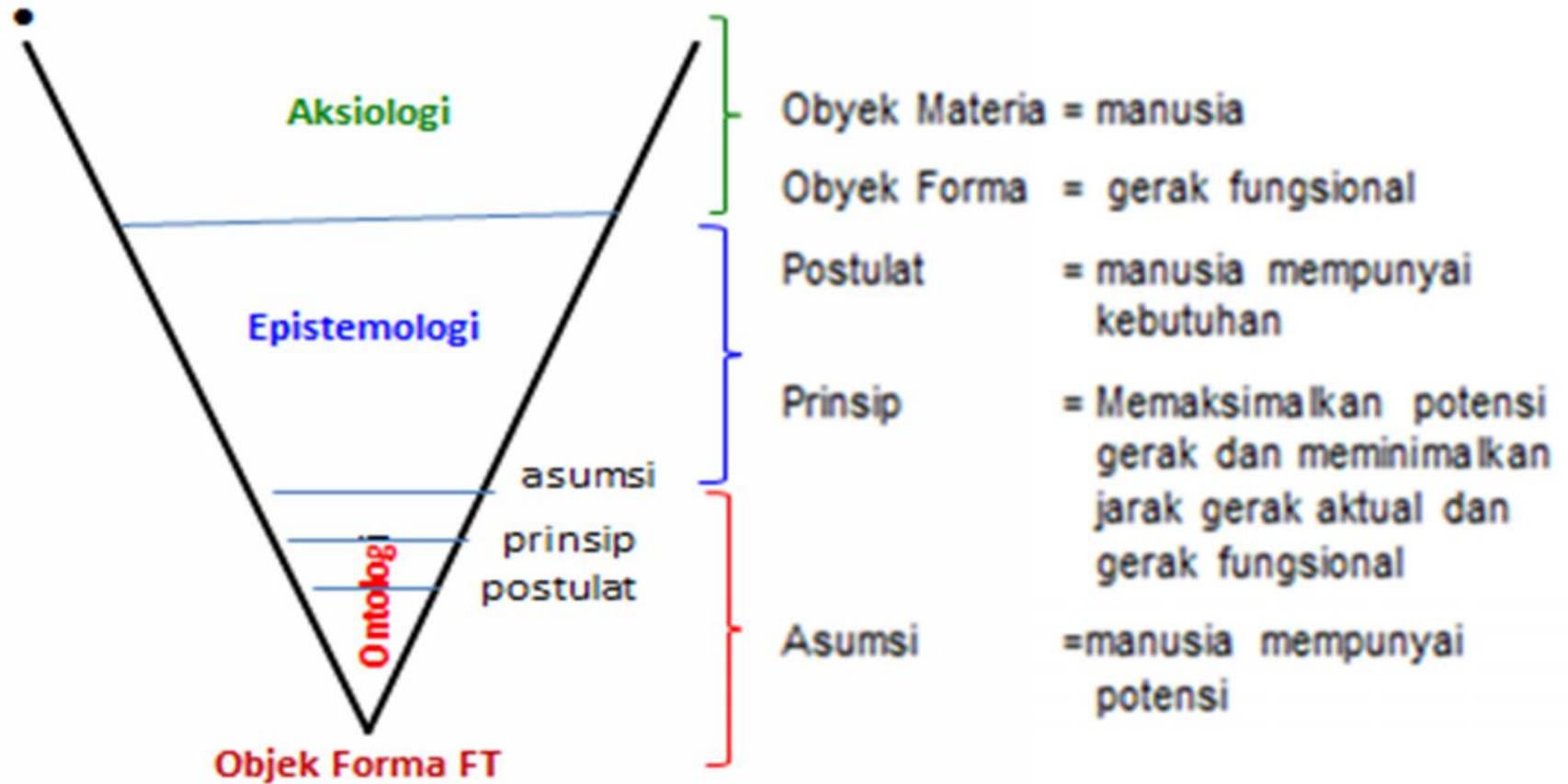
Principle Physiotherapy that the effort to overcome motion problems and function in the context of one's health condition and the process of increasing it is to maximize motion potential and minimize the difference between actual motion and functional motion.

Characteristics and Specifications of Physiotherapy

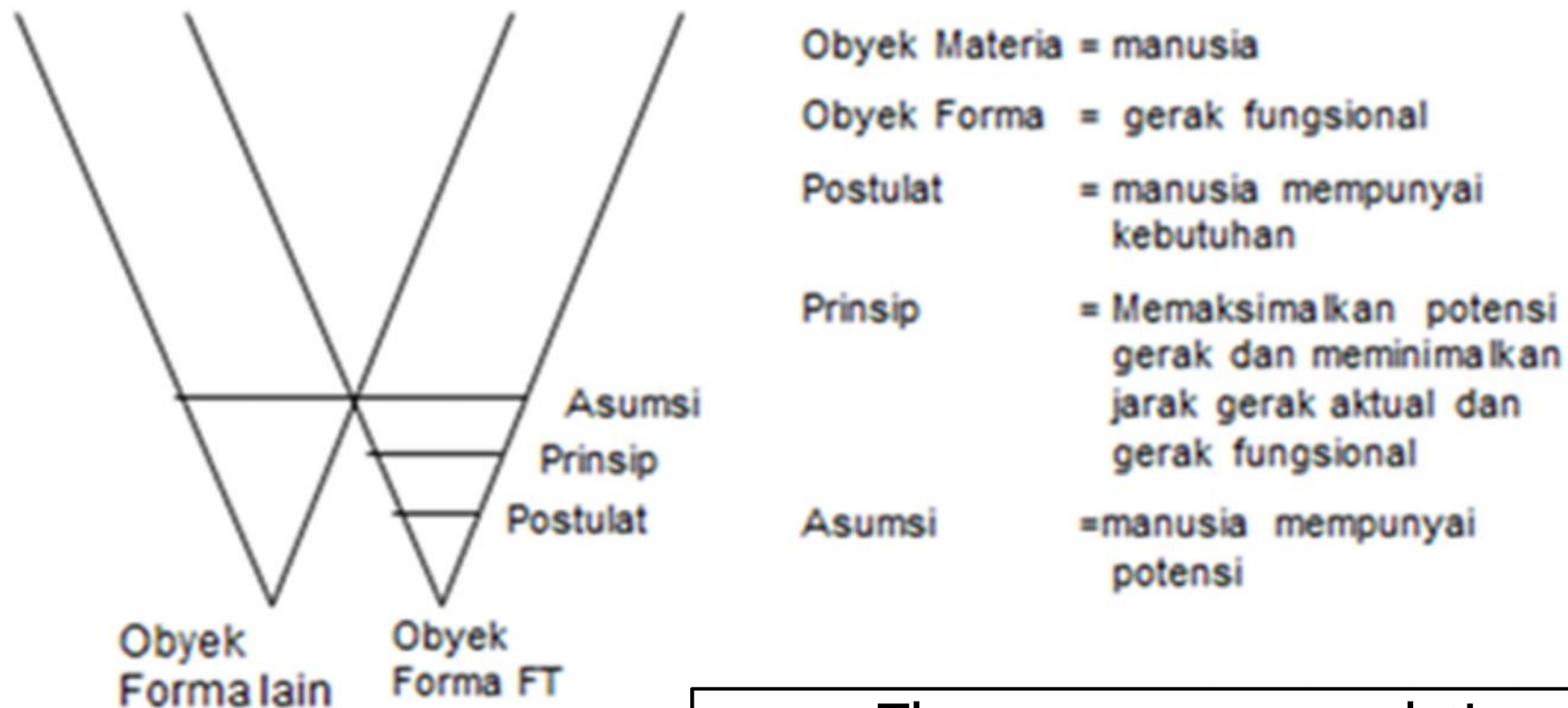
5. Assumption.

The assumption that is given that human that suffering motion problems and function in the context of health in general and the process of increasing one's health in doing daily activities are individuals with potential motion in doing activities to fulfill their ever changing needs according to the development of technology and cultures.

PT SCIENCE STRUCTURE



RELATIONSHIP PT SCIENCE & OTHER SCIENCES



There was some correlation
between
PT science & other science diciplines

THE “V” SHAPES OF SCIENCE



Ideal



Wide



Narrow

Narrow : Focussed on Subject

- Specialist
- Narrow minded–needs collaboration

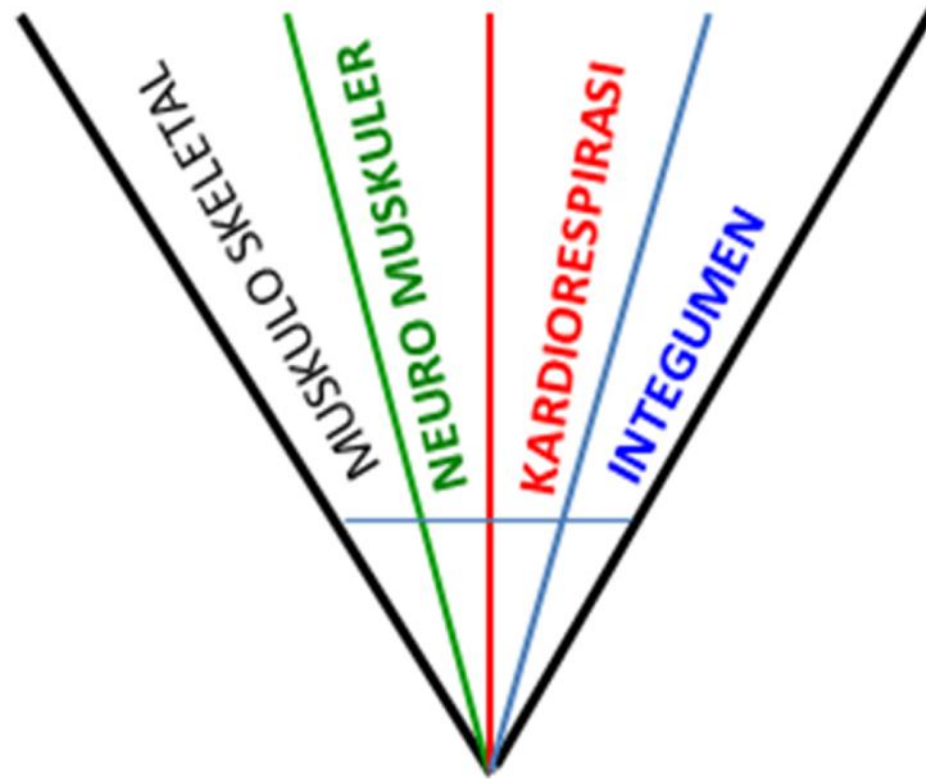
Wide: Learn in General/Basic

- Can't be an expert
- Easy to learn, even with no background not an expert though.

Ideal: to reach ideal situation

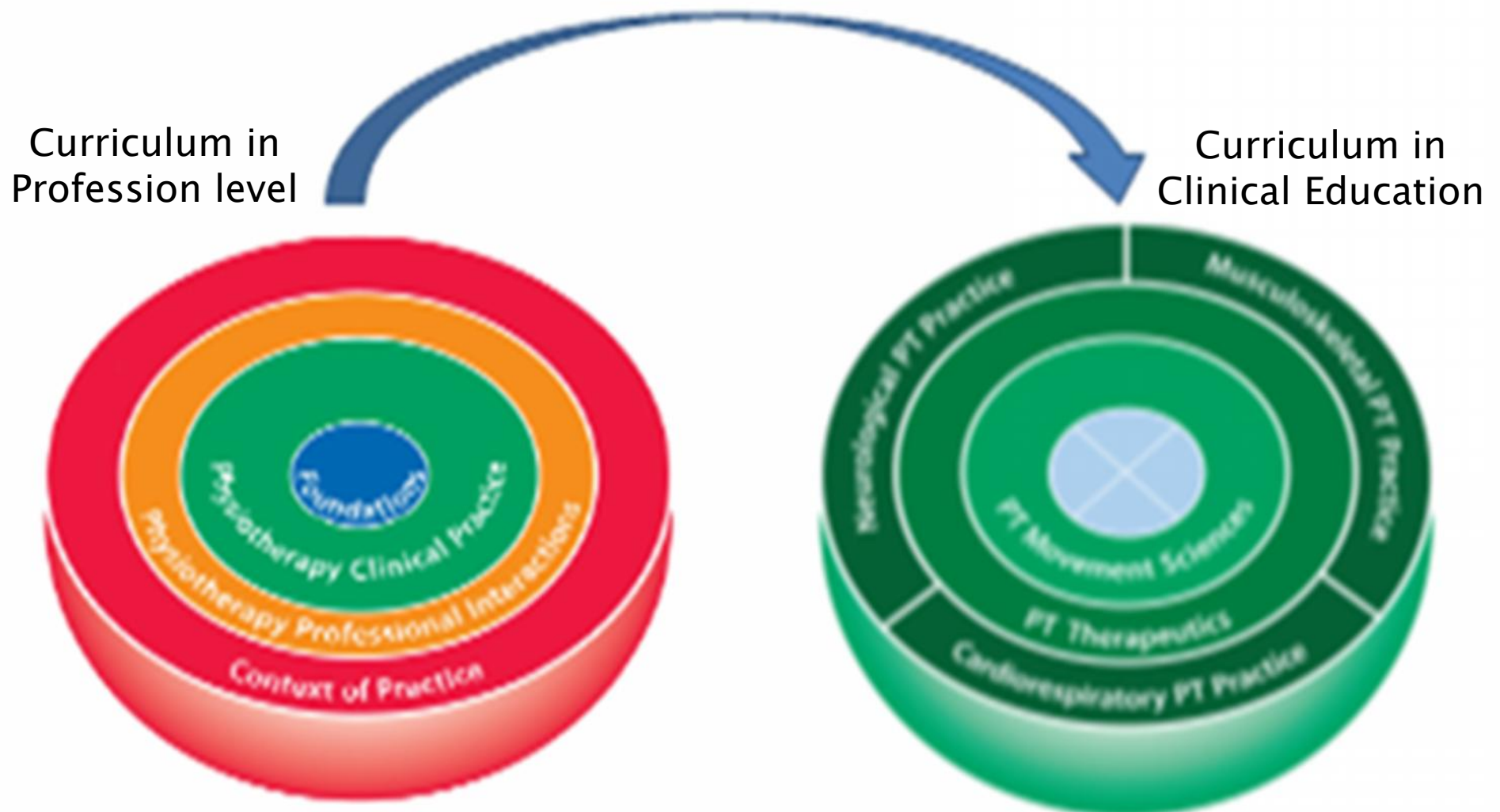
- Competition Standard
- Education Standard
- Service Standard
- SOP

Specialization: Why???



We know because of our limitation, we can not learn everything & become an expert in everything.....
That is why we have specialization

SCHEME OF CORE COMPETENCY OF PT THEORITICAL & PRACTICE



1. The competence core is decided by the current movement problem and functional.
2. Based on clinical data, most of the cases are Muskuloskeletal, Neuromuskuler and cardiorespiratory

Definisi Physiotherapy

The physiotherapist are “healthcare professionals who diagnose and treat individuals of all ages, from new borns to very oldest, who have medical problems or other health related conditions that limit their abilities to move and perform functional activities in their daily lives” (APTA 2009)

The Cartered Society of Physiotherapy, the representative body in the UK, defines physiotherapy as “ Physical approaches to promote, maintain, and restore physical, psychological, and social well being” They go on to describe physiotherapy as science based and committed to extending, applying, evaluating and reviewing evidence” (CSP 2009)

Physiotherapists assess, plan and implement rehabilitative programs that improve or restore human motor functions, maximize movement ability, relieve pain syndromes, and treat or prevent physical challenges associated with injuries, diseases and other impairments. (WHO)

Definisi Physiotherapy

Australian Physiotherapy Association: Physiotherapists are highly qualified health professionals who work in partnership with their patients to help people get better and stay well. ... Using advanced techniques and evidence-based care, physiotherapists assess, diagnose, treat and prevent a wide range of health conditions and movement disorders. (APA)

Physical therapists provide services that develop, maintain and restore people's maximum movement and functional ability. They can help people at any stage of life, when movement and function are threatened by ageing, injury, diseases, disorders, conditions or environmental factors. (WCPT Oct 14, 2016)

Physiotherapy adalah bentuk pelayanan kesehatan yang ditujukan kepada individu and/atau kelompok untuk mengembangkan, memelihara and memulihkan gerak and fungsi tubuh sepanjang rentang kehidupan dengan menggunakan penanganan secara manual, peningkatan gerak, peralatan (fisik, elektroterapeutis and mekanis) pelatihan fungsi, komunikasi. (Permenkes No 80 / 2013)5

Definition of Physiotherapy

Summary :

1. Variety, could vary in every country
2. Object : *movement and function*
3. Purpose: *restore, improve, prevent, maximize.*
4. Method : it depend of technology they use

Paradigm of Physiotherapy

How do PT Science view the problem

How to differentiate between healthy person and someone who need our health

HEALTH MODEL PARADIGM

Biomedical model

- Health or sickness is determined by anatomy and Physiologic structure
- Illness: Anatomy & Physiology damage

Movement Continuum Theory

- Health or sickness is determined by the movement that we need and the real movement
- Assessment:....?
- Treatment:....?

Biopsychosocial model

- Health and sickness beside the anatomy and Physiology factors, its also determined by spriritual and social environment factors



Movement Continuum Theory ... PT Paradigm

“Movement Continuum Theory”

(Principles of Movement in PT)

General principles :

1. Motion is an essential thing for human being.
2. Motion happens on continuum microscopic to macroscopic for individual in society.
3. Motion at the continuum level is influence by physical psychological, social and environmental factors.

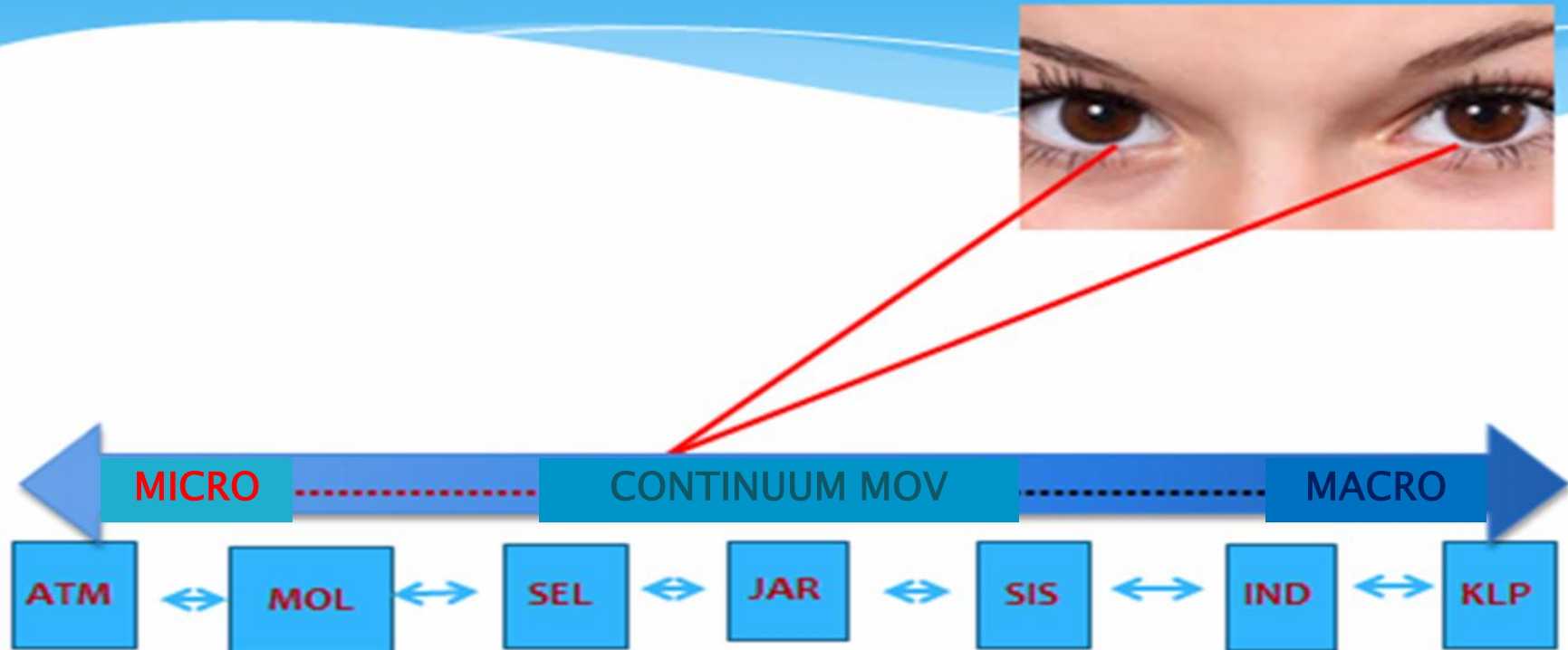
“Movement Continuum Theory”

(Principles of Movement in PT)

Physicaltherapy principles:

1. Motion at every continuum level is dependable.
2. At every continuum level there is *MAMP= maximum achievable movement potential*
3. *MAMP* is influence by *MAMP* at different level in continuum and it's also influence by physical, social, psychologic and environment factors.
4. Individual has *PMC= preferred movement capability*) and *CMC= current movement capability* which are equal in normal condition.
5. Pathological factor has potential to change *MAMP* to make a difference between *PMC and CMC*
6. Focus on PT to minimize *PMC and CMC*
7. Practical PT to involve motion therapy modality, education, technology and environmental modification.

HOW PT VIEW EACH INDIVIDUALS



PT View individu based on their motion/movement from the Atom level, Molecule, Cell, Tissue, System, Individu & Community/Group
Each level influenced each other

RELATIONSHIP BETWEEN POTENTIAL MOTION and NEEDS



Normal Condition:
 $PMC = CMC$
Wellness

Abnormal Condition:
 $PMC \neq CMC$
Illness

PT Focus to minimize :
PMC & CMC

Vertical line: MAMP= Potential Mov
Horizontal Line: Individual needed
Green Line: PMC=Functional Mov
Red Line: CMC= Actual Mov

HUMAN ACTIVITIES



1. ADL
2. House hold activities
3. Production activities
4. Achievement activities

According to PT, a healthy person is a person who is in the green line which is the length of the need line is equal with potential motion line.

The length from bottom left to top right depends on the maximize potential motion each individual can reach.



To be healthy.. You need to exercise!
Our motion is influenced by internal and eksternal factors.
Int'l factors: structure/function of tissue & Motivation/SMotor
Ext'l factors: social and cultural influences.



HUMAN ACTIVITIES ARE INFLUENCE BY:

- ATM, MOL, SEL, JAR, SYSTEM, INDIVIDUAL, GROUP
- MOTIV/SM, SOCIAL AND CULTURAL FUNCTIONS

“The Philosophy of PT Science”

Ontology:

- * Objek materia : Human / **Manusia**
- * Objek Material: Movement & function
- * Postulate : Individual has a needed/ **Individu memiliki kebutuhan**
- * Principle :- Maximally potentiale of movement/
memaksimalkan potensi gerak
 - Minimize gap between actual movement and functional movement
- * Asumption : Individual has potential of movement / **individu memiliki gerak potensial**

Epistemology:

- Movement & Function:

Needs of mechanical bodies, therapy , ergonomic etc...
Can be developed according to the need.

Therapeutic modality:

Massage (superficial energy usage) to deeper network system
(MWD, Laser etc)

- Special technique:

Bobath, William, McKenzie, Cailliet methode etc

- Senso motor/ motivation:

Needs of motor control, behavior, wellness etc

- Social function/ Sosial

Needs of knowledge in communication and environment.

- Cultural function/Budaya:

Needs of moral, rules and social customs

Aksiology : (benefits)

How can we predict, prevent and apply a particular technology on particular illness

- Prediction:
Immobilize joint (Fixation)> Stiffness of joints
- Prevention:
Action required to minimize stiffness of joints
- Implementation:
Applications of current technology

CONCLUSION

Ontology:

Objek materia: Human

Objek forma: Motion & Function

Postulate: Human... Has Needed

Principle : Max...MAMP/ Min..PMC–
CMC

Asumption: IND Has MAMP

Axiology.

PT Sciences: to explain, forecast, prevention, controlling & apply to Human as PT Object materia.

PT Sciences can be developed through theory, practice and research.

Epistemologi :

- Continuum Mov: anatomy, Phys, biomecanic–kinesiologi etc
- Limitation in motion and function : appear...Patologi dsb
- Therapeutic modality : the use of mechanical energy : massage, manual therapy ,Exc Therapy, IRR, UVL, US, SWD, MWD, ES, Elektro therapy, laser etc.
- Special concept/technique: William, Mc.Kenzy, Bobat, Kaltenbon, Mulligan, Kinesio Taping, NMT etc
- Senso motor & motivation : Psychology, behavior etc
- Cultural function: ethics, laws etc.
- Social function: communications, working together etc.

THANK YOU



Esa Unggul

Esa Unggul

Esa Unggul