Philosophical and Psychological Basis of General Science Education

E D U C A T I O N as a process means specially organized gaining of LIFE EXPERIENCE FOR LIFE

General and Professional Education

Content of education

Methods of education

LIFE EXPERIENCE (theory)

Knowledge

| Values

| Skills

| Consideration

| Behaviour

LIFE (practice)
**Human – body and spirit** (feelings, mind, will)

_Homo sapiens_ conscious (artistic and scientific) reflection of sensed world and following purposeful actions as conscious materialization of corresponding images and concepts

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**Human’s spiritual world**

Conscious or purposeful materialization of images and concepts

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**World – human’s life medium**

Arts - images, emotional expression of thoughts - FEELINGS

Sciences – concepts, rational expression of thoughts - MIND

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**Systemic organization and action of human’s consciousness**

**Thinking** – spiritual process as systemic processing of information within human’s brain

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**Human’s world of thoughts**

Materialization of artistic and/or scientific thoughts

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**World – human’s life medium**

Reflection of sensed world in human’s consciousness – it means building _systems_ of thoughts. It is _systematic_ thinking process as fundamental way of human’s conscious spiritual life.

There are artistic and scientific _systems_ within human’s consciousness.
Thinking means building theories

Reflection of sensed world builds OUR WORLD OF THOUGHTS

THEORIES

Cognition (up from practice to theory)
Consideration
Behavior (down from theory to practice)

PRACTICE

Human’s spiritual life: interconnected - systemic
artistic (feelings based), scientific (mind based), pragmatic (will based)
thinking

Scientific Thinking
Theory – result of cognition for meaningful behaviour

Up and down - forward!

Fundamental Science   Applied Science   Educational Science
Scientific Thinking

**Reality** and **Precision, Facts** and **Causes**
when reflecting sensed world within human’s consciousness

**World of thoughts**
Scientific THEORIES

**Fundamental SCIENCE**
Consideration

**Applied SCIENCE**

**PRACTICE**
Material world

Science Education as educational scientific research process

**Fundamental Science** – **THEORY**
Discription: comprehension, causality
Conceptualization: understanding, factology
Observations
Cognition

**Applied Science** – **THEORY**
Project development

**PRACTICE**

Preparation of project realization
Realization of project

Educational research process includes study of both fundamental and applied research as creative gaining of life experience for life to satisfy definite needs of person or society.
### What education for what life?

<table>
<thead>
<tr>
<th>E D U C A T I O N</th>
<th></th>
<th>LIFE STYLE</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>MIND (concepts,</td>
<td>Development</td>
</tr>
<tr>
<td>SCIENTIFIC</td>
<td>comprehension)</td>
<td>Fundamental and applied research</td>
</tr>
<tr>
<td>ARTISTIC</td>
<td>FEELINGS (images, imagination)</td>
<td>Inspiration</td>
</tr>
<tr>
<td>PRAGMATIC</td>
<td>WILL (needs, resources)</td>
<td>Pragmatic creativity</td>
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</tbody>
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### Balanced development of human’s conscious spirit

<table>
<thead>
<tr>
<th></th>
<th>FEELINGS (images - artistic way of thinking)</th>
<th>MIND (concepts - scientific way of thinking)</th>
<th>WILL (evaluation of the usefulness of given images and concepts)</th>
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</thead>
<tbody>
<tr>
<td>Pragmatic people</td>
<td>*</td>
<td>*</td>
<td>Materialization</td>
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<tr>
<td>Scientific people</td>
<td>*</td>
<td>Conceptualization</td>
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<tr>
<td>Artistic people</td>
<td>Imagination</td>
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<tr>
<th></th>
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<th>SCIENCES</th>
<th>REALITY</th>
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Self-sufficient and creative person today needs highly developed system of feelings, mind and will, usually with definite accent on appropriate group of personal properties.