

BELLARMINE NNEJI

Alvan Ikoku Federal University of Education

Owerri – Nigeria

bellarminechika@gmail.com

The Aristotelian Intellectual Virtues and the Domains of Learning

Recibido 12 de abril de 2025 – aceptado 30 de mayo de 2025

Abstract: One of the ways towards achieving flourishing or fulfilment – *eudaimonia* – is through living the life that activates all the intellectual or rational faculties man. For Aristotle, this can majorly be achieved through education. This education must be a holistic one that ensures that one reaches his or her end both as an individual and as a member of the state. The essence of the intellectual virtues is to ensure that one develops or contributes to one's development and the development of one's society or state. This was why Aristotle outlined the intellectual virtues. The achievement of the intellectual virtues has to be in line with the objectives of the various domains of learning. There is need to train teachers and educators on how to hone and hole in these intellectual virtues into the objectives of the learning domains. This involves a special appreciation of the imports of the intellectual virtues and what they are expected to mould man into, from a comprehensive perspective. These intellectual virtues are analysed. Their nexus with the domains of learning exposed and linked and subsequently, how they are to be explored and exploited. It is pointed out here that Aristotle is the forerunner to the idea of the domains of learning. Lastly, indications of what they are expected to make out of man as consequences when properly applied in the process of teaching and learning are made. We should not look at them as merely from the speculative perspective in search for truth only or training of the mind. They are precursors to creativity and innovation. They are practical virtues.

Keywords: Aristotle - intellectual virtues – education

Resumen: Una forma de alcanzar la prosperidad o realización – *eudaimonia*– es a través de una vida que active las facultades

intelectuales o racionales del hombre. Para Aristóteles, esto se logra principalmente mediante la educación, que debe ser integral y asegurar que una persona alcance su fin, sea individual o como miembro del estado. La esencia de las virtudes intelectuales es asegurar que alguien desarrolle o contribuya al desarrollo propio y al de la sociedad. Aristóteles delineó las virtudes intelectuales por esta razón. La adquisición de las virtudes intelectuales debe estar alineada con los objetivos de los diversos dominios del aprendizaje. Existe la necesidad de capacitar a los profesores y educadores sobre cómo afinar y encarnar estas virtudes intelectuales en los objetivos de los dominios del aprendizaje. Esto implica una apreciación especial de la importancia de las virtudes intelectuales y lo que se espera que moldearán al hombre, desde una perspectiva integral. Se analizan estas virtudes intelectuales, se expone y vincula su relación con los dominios del aprendizaje y, posteriormente, cómo deben ser exploradas y explotadas. Se señala que Aristóteles es el precursor de la idea de los dominios del aprendizaje. Finalmente, se indican los efectos que se espera que produzcan en el hombre cuando se aplican correctamente en el proceso de enseñanza y aprendizaje. No debemos considerarlas únicamente desde una perspectiva especulativa en busca de la verdad o el entrenamiento de la mente, sino que son precursores de la creatividad y la innovación, son virtudes prácticas.

Palabras clave: Aristóteles – virtudes intelectuales – educación

1. Introduction

Aristotle, once described by Aquinas as the ‘Master’, was a detailed philosopher who cut across many areas and disciplines. He was an integral scholar and philosopher who believed that philosophy is a metascience and multi-pronged. He contributed to many disciplines through his philosophical projects. One deducible point about Aristotle is that his methodology did not see philosophy as a fragmented discipline. To lend credence to this view, a look at his discourse on intellectual virtues would suffice.

It is good to point out that Aristotle divided virtues broadly into two major categories. One is the moral virtue.

The other is the intellectual virtue. The sophists had argued that virtue can be taught (this can be seen in Plato¹ in one of his dialogues). But Socrates disagreed on this with the sophists. Aristotle equally argued that virtue cannot be taught. The type of virtues Aristotle had in mind was the moral virtues which he said are habits we acquire in the process of growing up. This is more expounded in his theory of moral development. It is only the intellectual virtues, according to Aristotle, that can be taught. They are crucial and strategic for life of flourishing and the quest to achieve fulfillment in life both as an individual and as a member of a society. Thus the intellectual virtues are the challenges of education to ensure that they are transmitted and imparted on the learners. This is however hinged on their proper appreciation and application.

This piece will show that Aristotle earlier had a vision of the current domains of learning. If he is not a forerunner to Bloom², he must have been a visionary who pre-empted the domains.

2. The Intellectual Virtues

Aristotle³ identified five intellectual virtues in the course of his analyses of ethics. These intellectual virtues are as follows: *téchne*, *phrónesis*, *epistème*, *nous*, and *sophía*.

¹ Plato. *Protagoras*. Oxford University Press, 2009.

² Bloom, B. S. *Taxonomy of educational objectives: The classification of educational goals: Handbook I, Cognitive domain*. McKay, 1969.

³ Aristotle. *Nicomachean ethics*. Penguin Press, 2009.

Téchne: this intellectual virtue is responsible for the ability in crafts, arts and skills. It equips humans with the skills for survival and human progress and development. Thinking has to be productive.

Phrónesis: this is also known as practical wisdom. This intellectual virtue helps humans in deliberations. The knowledge got from other areas are put to practical use through *phrónesis*, practical wisdom. It helps us to navigate the world of choices and lifestyles. It helps humans in their daily business. The rational-economic man is the man of practical wisdom.

Epistéme: this intellectual virtue equips us with scientific knowledge, knowledge of reality from the empirical perspective. This intellectual virtue helps to explore and understand nature. It helps us to know our world and be in a position to explore it.

Nous: intuition or intuitive knowledge is the source and foundation of this intellectual virtue. Inspirations are the products of nous. A lot of developments and innovations come to take place through the role intuition plays in man and his thoughts.

Sophía: This is philosophic wisdom, according to Aristotle. This intellectual virtue helps us to be critical beings. It stimulates our thinking faculties as rational animals. It also deals with speculative thinking. It helps us to assess situations and ideas. It is the wheel of success in many human endeavours.

3. The nexus between the intellectual virtues and the learning domains

We so far have four known domains of learning, viz: cognitive, psychomotor, affective, and social domains. Aristotle seems to have envisioned these domains as they

can be easily juxtaposed as will be seen in this section. He can be said to have designed or initiated a template from which Benjamin Bloom took off.

The cognitive domain is to be taken care of by the following intellectual virtues: *epistème*, *nous*, and *sophía*. These deal with knowledge and understanding, theoretical and speculative thinking. The word ‘cognitive’ is derived from the Latin root word *cognere*: to know. This learning domain focuses on what is to be known in the course of teaching any particular topic in lesson delivery. It emphasizes the key points and ideas of the topic.

The psychomotor domain is to be taken care of by the intellectual virtue of *téchne*. The term ‘psychomotor’ is derived from a combination of two Greek root words *psyche* – mind, and *motor* – movement. From a simplistic perspective, it means how the mind influences and articulates movements of the body. It deals with what the physical aspect of man can be put to use for. In essence, this domain focuses on the skills to be learnt or emphasised in the course of teaching any particular lesson topic. *Téchne* deals with knowledge and development of crafts, arts and skills. Development of skills for crafts and arts involve demonstrations and practice to garner the necessary experience and expertise. When it is said earlier that *epistème* helps us to understand and explore the world, the psychomotor domain in a way comes into focus.

Every lesson delivery of every subject must stress the necessary skills expected of learners. There is no way a particular subject cannot point to a particular skill. It can be a tactile skill or a practical problem resolution skill. Every knowledge is pursued to solve a problem or to better and existing situation. This is the importance of innovation and creativity.

Both the affective and social domains are to be taken care of by the intellectual virtue *phrónesis*. *Phrónesis* helps us to navigate in our world of relationships. Both the affective and social domains focus on how the knowledge of the lesson will influence social and interpersonal skills of relationships. It also focuses on how to use relationship tips and methods (such as teamwork, brainstorming) to facilitate understanding of the topic in perspective. They are used to stoke interests of learners in the lesson topic. Practical wisdom helps us to put knowledge to deliberative uses in navigating the social and cultural world. It deals with what we can do with whatever knowledge we get. It brings to bear sociological, psychological, ethical, economic, and other variables in all our deliberations before we act, making choices and decisions in the face of options and alternatives. Practical wisdom is a ‘doing’ intellectual virtue just like a verb is a doing word. What we do, how we do it, when we do it, where we do it, are all based on the deliberations of the intellectual virtue of practical wisdom. The educated human being should be a person of practical wisdom

The intellectual virtues when properly and adequately explored, in the process of teaching and learning, will lead to the achievement of the various and specific objectives of the learning domains.

4. The Products of the Intellectual Virtues

Aristotle noted that the exercise of the intellectual virtues will lead to the development of different groups of individuals. It forms different types of humans. He identified them as such: man the maker (*homo faber*), man the doer, and man the knower. The process of education is expected to produce these types of humans or make each

person acquire the traits of each of the categories of man identified by Aristotle.

a. Man the Maker (Homo Faber)

Man the maker is the end result of the intellectual virtue of *téchne*. The human being is taught how to put thinking to productive uses. The craftsman is a professional in crafts based on learning of his speciality through education. He has the acumen for bringing material things to a different reality. Man the maker, through the education becomes the efficient cause of many a material things. It makes man a creative being. A creative being that manufactures the necessary tools born of the idea of productive thinking.

Any good scholar of Aristotelian thoughts would know that Aristotle has a way of tracing and appreciating the nature of things through his analyses of causality - the four causes. Man the maker is the efficient cause that transforms material substances that are in states of potency to actuality. A material that has no shape can be put to a new shape to bring into existence that which never was. This is based on the productive thinking of man the maker - the *homo faber* – the tool using man.

When graduates from the practical fields cannot successfully show expertise in their professional areas, it is an indication that man the maker was a failure in the process of their pedagogy. Thus the psychomotor domain was not successfully and adequately harnessed.

The essence of industrial work experience (industrial training) is to ensure a successful man the maker. This is the essence of apprenticeship in many professions under different professional or technical names.

A good apostle and promoter of man the maker as the most important goal of education is Julius Kambaraje

Nyerere. For him, education is not a preparation for white collar jobs. Nyerere^{4 5} believed that education is to equip humans with the necessary skills for self-reliance. Every educated person should have a skill, should be a professional in one art or technique that would earn him or her a living through the practice of such skills. This is the philosophy behind his *ujamaa* system.

Many education policies in developing nations, especially African nations, are highfalutin policies. Even policy areas claimed to be practical oriented are never implemented. Laying emphasis on the needed skills through policies without practicalising such is not the best approach. Education should primarily be focused on solving immediate local problems and concerns. This is the essence of man the maker.

Man the maker is the most fertile root to making learners agents of creativity and innovation. With the digital world, there is virtually no discipline that cannot exploit the digital opportunity to become creative or innovative. To be able to achieve such a feat all the other intellectual virtues have to be functional and optimal at their various levels. This why they are to be harnessed in the various domains in the process of teaching and learning.

b. Man the Doer

The end result of *phrónesis* is man the doer. This is the deliberative man. The man who thinks through his options. One needs to deliberate well before making a

⁴ Nyerere, J.K. *Freedom and socialism*. Oxford university press, 1972.

⁵ Nyerere, J.K. "Adult education and development". B. Hall and J.R. Kidd (eds). *Adult learning: A design from action*. Pergamon Press, 1978.

choice of action. Practical wisdom helps us to make and take good decisions. Practical wisdom can be said to be the bases of codes of ethics of different professions. Lack of practical wisdom leads to what Aristotle identified as *akrasia*. This is known as incontinence. Though there are various aspects of *akrasia*. Inability to take the necessary decisions is seen as *akrasia*. Inability to take good decisions. Or, the inability to make the right decision in the face of glaring wrongness of the other alternative. In such a situation, practical wisdom becomes just a mirage.

The failure to make out man the doer of learners from the lesson delivery is a pointer that the objectives of both the affective and social domains were not achieved. Aristotle wanted to make out man the doer from the process of education for the sake of the good of the State. A good citizen of the State must be a man of prudence. Man the doer must be both a good man and a good citizen. Having both is the challenge of the millennium in a world challenged at all fronts from leadership to followership, from terrorism to racism, from war to imperialism, from kidnapping to banditry, etc. Education is challenged in these aspects. Practical wisdom is the best endowment necessary to successfully navigate through the global society.

Good leaders are ones endowed with practical wisdom. Also a good leader equally needs to surround oneself with people or assistants endowed with practical wisdom. This will help in taking good decisions in all the relevant areas that call for such. The man of practical wisdom understands himself, understands the thinking of others, and can deliberate on them for a good decision on the long run. The deliberative person is always more successful than the person of chance.

Practical wisdom is good for every human being. Teachers succeed in the classroom more with practical wisdom as a philosophy. The teacher needs practical wisdom to deal with learners who have different learning abilities, different cultural backgrounds, different psychosocial dispositions, etc. Practical wisdom involves a thorough appreciation of the topography and topology of an environment, the actor's environment. These help in deliberations. Vontz and Goodson⁶ emphasised the relevance of this intellectual virtue of practical wisdom in teacher education and for successful and effective teaching. For them, practical wisdom remains crucial for teachers.

Every work, discipline and all areas of human endeavour needs *phrónesis*. The judge, the medical doctor, the teacher, the peasant, etc., all need *phrónesis*. It helps us to act right, navigate properly and guide our decision making.

c. Man the Knower

The end product of *epistème*, nous, and *sophía* is man the knower. Aristotle⁷ said that all men by nature desire to know. This 'desire to know' is achieved through these three intellectual virtues. Whoever that desires to know, must be curious and inquisitive. He must be a critical thinker. Education has to make humans critical thinkers. Episteme leads to investigations, researches to unveil the nature of reality. This is the base of scientific knowledge. *Nous* ensures proper understanding of reality. *Nous* ensures

⁶ Vonts, T. and Goodson, L. *EDCI 207: Curriculum, instruction and assessment*. Kansas State University Center for the Advancement of Digital Scholarship, 2020.

⁷ Aristotle. (1999). *Metaphysics*. Green lion press.

the training of the mind to discern truth. Through *nous* we appreciate the first principles of reasoning or laws of thought. Intuition helps in proper appreciation of certain issues and problems. Intuition is a major foundation of speculative thinking which is the quest and search for truth for its own sake. These can collectively be seen as philosophic wisdom.

Man the knower is the special challenge for the cognitive domain in the process of teaching and learning. These three intellectual virtues have to be well coordinated and integrated for a successful lesson delivery. That there are cases of graduates not being able to defend their certificates or specialties is as a result of the failure of the teacher (or process of education) to make the man the knower out of his or her learners. The cognitive domain is the germinating ground for knowledge and intellectual development. It takes care of the objectives of what one needs to know from a particular lesson delivery.

Man the knower involves a lot. It involves the training of the mind (*nous*) to be imaginatively fertile. This fertile imagination needs to be made comprehensible. This comprehensibility needs to be justified rationally. From thence creativity can be birthed. This portrays the interdependence of philosophic wisdom. *Epistème*, *nous* and *sophía* are involved in a nexus of relationships. There is no man the knower without any of the trio. They form the tripod stand of what it is to know. This portrays the special place of knowledge in human and in life. The essence of education from all perspectives is to know. Aristotle captured it when he said that 'all men by nature desire to know'. Since this is a natural challenge, one needs not wonder why there intellectual virtues are dedicated to achieving man the knower. Lesson deliveries need not

downplay these intellectual virtues and their associated learning domains.

Teachers need to be well trained and equipped in ensuring the achievement of man the knower. The teacher needs the requisite skills to ensure the reality of man the knower. This involves training in curiosity or inquisitiveness and critical thinking. It is not out of tune to posit that one needs training in curiosity or inquisitiveness. In the philosophic circles, one needs to know how to ask the right questions in order to arrive at the truth of reality or the truth one is seeking. It is not really every question that matters in philosophy. Impertinence is not the same as philosophical curiosity. Curiosity in philosophy is not the haphazard approach to questioning. It is a systematic effort to unveil the truth of any reality or issue. Questioning is the bulk of which philosophers are made of. Curiosity is the cornerstone of critical thinking. Heidegger⁸ held that the philosopher is a thinker per excellence. Thinking goes with questioning.

Those qualified and saddled with the responsibility of making man the knower should be thinkers and should be able to provoke and instil thinking in others. Aristotle said that we should be delighted in making use of our faculties. This is because every human being desires to know. To know is to think. Thinking produces knowledge. Creativity and innovation are the end products of thinking. *Epistème*, *nous* and *sophía* make humans purveyors of creativity and innovations. These have been the hallmarks of western scientific and technological development and progress. In fine, the entire intellectual virtues are involved in a grid and a network. From the above it becomes easily

⁸ Heidegger, M. *What is calling thinking*. Harper Collins, 1976.

deductible that with this trio, man the maker becomes a fait accompli.

To lend more credence to the essence of these intellectual virtues in making a consummate human endowed with knowledge, Francis Bacon comes to mind. Bacon⁹ had posited that 'knowledge is power'. What a powerful statement! This is Aristotle writ large. Bacon believed that once one has knowledge one has the power to change, create and control nature and other human situations. According to Panovski¹⁰ Bacon believed that with knowledge, humans can understand the world and control it and harness its resources for the benefit of the individual and society. Knowledge gives such powers. Once the knowledge is got, practical wisdom takes over for the justifiable use of the knowledge and its powers.

5. A Synthetical appraisal

Aristotle can be said to have a concept of a consummate man as that endowed with the intellectual virtues and who manifests the three types of man enunciated above. A flourishing personality is the consummate man. Education is expected to produce a consummate person and invariably a flourishing society. When and where the intellectual virtues are well harnessed and imparted, definitely there will be flourishing man the maker, man the doer, and man the knower.

⁹ Bacon, F. *Novum organum*. Createspace Publishing, 2017.

¹⁰ Panovski, A. "What Did Francis Bacon Mean by "Knowledge Is Power"?". *The collector*. Retrieved from <https://www.thecollector.com/francis-bacon-knowledge-is-power/2023>

With the current millennial challenges, every education should produce students who manifest the three types of man. There should be a multidimensional human who knows, makes and does make his or her environment a conducive one that can proffer solutions and tackle challenges facing the immediate and larger environment. This is the essence of the education of humans. This is summarised in the saying, *agere sequitur esse*. For Aristotle, the delight we have in our senses should be the perpetual impetus and motivation towards realising the various intellectual virtues and becoming the multidimensional humans through the process of education.

6. Critical Evaluation

The intellectual virtues as highlighted by Aristotle are the summary goals and objectives of the essence of education for humans. They are the guidelines and criteria for the achievement of excellence. With them, flourishing - *eudaimonia* - should be guaranteed.

The intellectual virtues should act as guides to both curriculum design and development and lesson delivery in the classrooms. The curriculum should see how the courses and subjects are to be designed in order to make it facile for the course to ensure that these virtues are imparted and achieved by the learners. Once the programmes and courses are appropriately designed to achieve these goals and objectives, the next onus lies on the teachers and their methods of lesson delivery. The curriculum design and development along the lines of these intellectual virtues, i.e., ensuring that they are honed in, is a necessary condition for their achievements. The teachers on their side equally need to appreciate these intellectual virtues. They need to appreciate what each imports and entails for them to ensure

their achievements through their lessons delivery. The appreciation of the imports and entails of these intellectual virtues is primary to the successful application of them in their lessons delivery. This is because one cannot give what one doesn't have and understand. It is only the sophists that can claim knowledge of almost every thing, without really knowing them. The essence of this is to ensure that teachers are not in any way found wanting in understanding and applying methods that would ensure that these virtues are well imparted on the learners. To ensure this and to successfully teach this, one needs to be convinced of what one knows and the essence of these on the overall essence of education and what it means for one to be educated.

Majority of the curriculum in developing countries, especially in Africa, lack this educational orientation where the curricula are geared towards the achievement of the types of humans, according to Aristotle. At the undergraduate levels, these categories of humans are hard to get by. It takes up to the postgraduate levels before they blossom. There are many who finished their undergraduate studies with any skills realised, even in the most technical of the programmes. If we compare the level of people who undertake postgraduate studies in some western and Asian nations with the African nations, a pointer to the above will emerge. According to statistics from the British Council¹¹ only around 12 percent of Indians undertake postgraduate

¹¹ British Council. *India releases updated higher education statistics*. British Council. Available at: <https://opportunities-insight.britishcouncil.org/short-articles/news/india-releases-updated-higher-education-statistics#:~:text=Nearly%2079%20per%20cent%20of,for%20sub%20Ddegree%20diploma%20programmes%202024>

studies. In Japan, according to Statista Research Department¹² around 7 percent undertake postgraduate studies. The choice of the two nations is based on the fact that they are least of places that have high immigration rates and destinations for foreign students. This is unlike in Europe and America. These are highly technologically and entrepreneurial inclined nations. It is believed that their systems of education (especially secondary and undergraduate levels) ensure the production of the various categories of humans according to Aristotle. With these levels, the products (undergraduates) from the systems are already enjoying flourishing. They have the full potentials for self employment and other skilled employments. If African nations can recalibrate their curriculum, they tend to gain a lot. There are abundant human and raw materials resources endowed in the land.

Following global trends and drift towards digitalisation, every subject and disciplines should show practical consequences for students. Digitization is a spiral that is inevitable. To make both man the maker and man the doer out of digitisation, every subject must stress these intellectual virtues. This is the key to self empowerment and national development. Every subject should lead or incorporate entrepreneurship as a necessary learning outcome. This involves putting the three aspects of man, according to Aristotle, into perspectives in every curriculum development and design. Every subject and discipline should ask how it can make out these three

¹² Statista Research Department. *Number of postgraduate students in Japan in academic year 2025, by major field of study and gender*. Statista research department. Available at: <https://www.statista.com/statistics/1307922/japan-number-postgraduate-students-by-major-and-gender/2024>

dimensions of man according to Aristotle. We now have the digital humanities. Many subject areas can create entrepreneurship opportunities in this age of digitization. This underscores the need for making the subjects and disciplines produce man the maker, man the doer, and man the knower.

Socrates in one of Plato's¹³ dialogues had insisted that only those who have finished childbearing can be, and are qualified to be, midwives. By implication only those who understand these intellectual virtues and their imports can be in a position to impart them successfully through lessons delivery. This requirement is being underscored in this paper. It means there is need for teachers and student teachers to appreciate these intellectual virtues and their relations to the learning domains. Aristotle equally pointed out that the intellectual virtues need time and experience for their successful teaching. He here, supports the Socratic recommendation for midwifery in education.

The intellectual virtues ensure one of the best ways towards the achievement of the objectives of the domains of learning. It is the conviction of Aristotle that the intellectual virtues make a consummate educated man. It is a major route to a good and functional society.

There is no gainsaying the fact that the intellectual virtues of *epistème*, *nous* and *sophía* are naturally endowed in humans. However they need to be trained, activated and polished in the individuals. Just like Aristotle pointed out, they need time and experience. The time and experience comes through education. Socrates equally believed in this as he went about trying to deliver (through his midwifery) those naturally pregnant with ideas, of those ideas. This he

¹³ Plato. *Theaetetus*. Hackett publishing, 2004

did through making them to reflect and contemplate on their thoughts and thinking. Thus, the intellectual virtues need a Socrates in the classrooms. Plato¹⁴ pointed out that humans are naturally endowed with many elements: appetitive, spirited, and rational. They equally need education for these to be made manifest in each individual. The essence of training, apprenticeship and related experiences are to bring out these virtues to the fullest. This is the necessary, if not sufficient, conditions for flourishing - *eudaimonia*.

The intellectual virtues are not limited to the search for truth as widely believed based on the fact they are seen as traits a developed mind must show. They have to be seen as the bases of thinking and creativity. These are decipherable most especially from the idea of the homo faber – man the maker. Man the doer can analyse situations and find novel solutions to existing problems. It equips learners with problem solving skills and acumen. This is tantamount to creativity and innovation. When all of them collectively guide us in decision making they are practical virtues.

Conclusion

The intellectual virtues are not fragmented or sieved from one another. The collectively help humans to achieve flourishing. A society cannot develop or progress technologically with only man the maker. In essence there is no man the maker without man the knower. Bacon believed that theoretical knowledge is not enough. It must have applications. It is good to note that Aristotle is one of those who believe that knowledge must proceed from the known to the unknown. Man the knower must think and

¹⁴ Plato. *Republic*. Createspace Independent Publishing, 2021.

make the ground fertile for man the maker. Man the maker goes from the known to the unknown. He needs practical wisdom in all these as knowledge is an organised system of activities.

For the domains to be successfully explored to harness the potentials to make the intellectual virtues a reality, there is need to re-examine approaches to curriculum development and lesson delivery. The objectives of these domains need not end up as mere paper works on lesson plans. Teachers need to know how to ensure that learners become man the maker, man the doer, and man the knower. The curriculum needs to be redesigned to assist teachers ensure that these virtues are achieved. The teachers remain the best media, if not the only media, through which the practical achievements of the domains' objectives can be possible.

References

- Aristotle. *Nicomachean ethics*. Penguin press, 2004
- Aristotle. *Metaphysics*. Green lion press, 1999
- Bacon, F. *Novum organum*. Createspace Publishing, 2017
- Bloom, B. S. *Taxonomy of educational objectives: The classification of educational goals: Handbook I, Cognitive domain*. McKay, 1969
- British Council. *India releases updated higher education statistics*. British Council. Available at: <https://opportunities-insight.britishcouncil.org/short-articles/news/india-releases-updated-higher-educationstatistics:text=Nearly207920percent20offor20sub2Ddegree20diploma20programmes>, 2024
- Heidegger, M. *What is calling thinking*. Harper Collins, 1976

- Nyerere, J.K. *Freedom and socialism*. Oxford university press, 1972
- Nyerere, J.K. Adult education and development. in B. Hall and J.R. Kidd (eds). *Adult learning: A design from action*. Pergamon press, 1978
- Panovski, A. What Did Francis Bacon Mean by “Knowledge Is Power”? *The collector*. Retrieved from <https://www.thecollector.com/francis-bacon-knowledge-is-power/> 2023
- Plato. *Protagoras*. Oxford university press, 2009
- Plato. *Theaetetus*. Hackett publishing, 2004
- Plato. *Republic*. Createspace independent publishing, 2021
- Statista Research Department. *Number of postgraduate students in Japan in academic year 2025, by major field of study and gender*. Statista research department. Available at: <https://www.statista.com/statistics/1307922/japan-number-postgraduate-students-by-major-and-gender/>, 2024
- Vonts, T. and Goodson, L. *EDCI 207: Curriculum, instruction and assessment*. Kansas state university center for the advancement of digital scholarship, 2020