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ICT for Innovative Education and Science: Smart Environment for Networked Strategies	812
V. Omelyanenko, O. Kudrina, H. Shevtsova, O. Prokopenko, V. Petrenko	
Student Social Media Usage and Its Relation to Free-recall Memory Tasks	816
V. Vidaček Hainš, M. Kućar, R. Kovačić	
Modernized Courses in Automotive Software Engineering	822
I. Kaštelan, B. Pavković, M. Vranješ, M. Popović	
Intuitive and Rational Information Management	826
I. Mikšić, T. Babić, Lj. Bakić-Tomić	
Artificial Intelligence – a New Topic in Computer Science Curriculum at Primary and Secondary Schools: Challenges, Opportunities, Tools and Approaches	832
Z. Tkáčová, L. Šnajder, J. Guniš	
Inquiry-Based Python Programming at Secondary Schools	835
J. Guniš, L. Šnajder, Z. Tkáčová, V. Gunišová	
Sentiment Analysis of Open-Ended Student Feedback	840
T. Hynninen, A. Knutas, M. Hujala	
Comparative Analysis of Students' Attitudes on Teaching Quality and its Assessment in Higher Education	845
K. Pavlina, A. Pongrac Pavlina, V. Juričić	
Students' Attitudes toward Value-Driven Digital Marketing	849
A.M. Jadanec, T. Babić	
The Web-based Lectures as Leverage for Developing the Sense of Belonging in the All-Russian Creative School-Contests	855
O.S. Fomichova, V.A. Fomichov	
STEAM Students and Their Expectations from Future Business Life: a Values-driven Workplace	861
Y. Borysiuk, T. Babić	
Cryptocurrency as the Currency of the Future: a Case Study among Algebra University College Students	867
A. Knežević, T. Babić, Z. Musa	
New Teaching Methods in Higher Education - Management of Information Systems Course	873
K. Aleksić-Maslač, P. Vranešić, B. Debić	

Intuitive and rational information management

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Abstract - Intuition is a term that can have different meanings. It can refer to intuitive knowledge as well as creative acts. Intuition belongs to the creative act and depends on unconscious resources, unburdened by rules of logic, contradictions, and dogmas of common sense. In the formal education, cognitive processes are used more, and the ratio is tied to logic, rules, and frames of thought, all of which must be justified, backed by reasons and arguments that serve to persuade about the truth or the delusion of the matter under consideration. Creativity and an exploratory spirit often involve intuitive processes. This research aims to determine whether students of computing, digital marketing, and market communications (Algebra University College) as well as students of economics (Baltazar Zaprešić University of Applied Sciences) rely more on ratio or intuition during different learning situations and are they threat different for each other? Although most of the students give priority to ratio, it has been shown that in reality they most often use a combination of intuition and ratio regardless of the field of study they are studying.

Keywords – intuition, intuitive, ratio, rational, information management

I. INTRODUCTION

People's lives are the eternal movement from situation to situation, from interaction to interaction forming the everyday life of a man. Therefore, every person must constantly make decisions in different situations in life. Decisions similar to those made many times before seem easy to make, and big ones are life decisions that fundamentally change a person's life. Each person has their way of deciding. Some people base their decisions on information they receive from the outside world, through the senses, from their own previous experience, other people's experiences and rationally judge them, and some people base their decisions more on information coming from the "inside". This information is intuitive and depends on unconscious resources, unburdened by logic, contradictions, and reason.

Information from the outside can be conflicting and, if a person decides solely based on information he has previously collected and arranged, and now, after recognizing a similar "pattern" that our mind provides, then, the person is not sure what to decide and what is best for him. In the case of indecision and hesitation, many people reach for information from their insides, based on "foresight", often outside the logical pattern and contrary to the known rules of what would be considered "reasonable", that is, information from intuition.

II. INTUITION AND RATIO

A. INTUITION

Word comes from the Latin word "intuition" which means seeing, observing, knowing the truth and reality, regardless of experience or logical reasoning. Terms such as the sixth sense, extra-sensory perception, subconscious mind, unconscious mind, premonition, and hunch can be called intuition or often associated with it. It is the inner voice that serves as a kind of personal guide or advisor.

Agyakwa created a taxonomy of four different intuitive knowledge, and those are Extrasensory Perception and Preknowledge, Cognition including Abstract Logical and Arithmetic / Geometric Principles, Intuitive Insights into Aesthetic and Moral Areas, and Insights from Experts who Enter the Essence of Problems without Explicitly Rational Thinking [1].

According to Diane Brandon, there are seven types of intuition: presentiment, abdominal nausea, Aha! a moment of sudden surprise, vision, instinct, unpleasant feeling that does not pass, touch, smell, hearing, physical signs, telepathy. These are all ways in which intuition communicates with a person and transmits important information to him/her or for someone else [2].

B. RATIONALITY

The ratio is based on reason, logic, data, and information. Decisions are made after reviewing and evaluating the information or situation in which we are.

The main source of information that the mind processes are from sensory-perceived reality, from our earlier experiences, from other people's experiences. The main criterion is reasonable thinking, and living and behaving come from conscious decisions that follow from the precepts of reason.

Aristotle distinguishes between passive and active reason whereby the passive part accepts impressions and unites them, while in the active part, consciousness as a reasoning force creates thought connections and conceptual meanings. Kant, however, says that through various categories, reason interconnects the sensory data and information that then forms the objects of experience. Hegel, within his system, attributes to reason the formally logical actions while giving the mind greater and broader meaning that goes beyond reason itself [3].

III. INTUITIVE AND RATIONAL INFORMATION MANAGEMENT

Information management evolved in the 1970s and 1980s in response to the need to interpret, use, create, and store information in the burgeoning economy of the Western world and the accelerated computerization of society. Information management is about manipulating information, evaluating information, acquiring information, creating information, storing, interpreting, and using information.

The principle of managing information in organizations can also be used to personally manage information to respond to new situations as quickly as possible, thus saving time. In this sense, information management becomes a set of activities for a person to transform that information into knowledge. For information management to become knowledge management, it is important to keep in mind that not all types of information are equally valuable and can be managed in different ways.

In the present time, it has become necessary for every person to access and manage the information obtained in the most productive way, as it has been shown that skillful information management does not necessarily lead to increased productivity or innovation. With the informatization of society, the information became publicly available. Excess information in the mind creates noise that results in confusion and difficulties in managing information, knowledge, and decision making. Heuristic information management benefits the development of intuition and intuitive information management.

Scientific research has shown that while making the right decisions it is not a trick to accumulate information, but to discard it: one must know intuitively what one does not need to know by reason. John Naisbitt confirmed this by saying, "Intuition is becoming more and more important in the new information society, precisely because there is so much information around us" [4].

If intuition is a superconscious, irrational source of information, can we consciously and rationally manage the information we receive from intuition at all?

We can consciously choose to "hear" intuitive information and process it rationally and either accept it or reject it. However, we have to be careful here because many people live in the space of their consciousness between instinct and intellect, so they are often unaware of the information they receive from intuition or those information collide with various emotions, and then they cannot recognize the real source of the information.

Also, to accept information from intuition one needs to trust it. If a person does not trust his or her intuition because of his/her upbringing or has decided that only rational information is relevant, the intuition information he / she receives will not be taken as true and will be rejected.

Gerard Hodgkinson said, "People tend to experience intuition when pressured for lack of time or in a situation where they have too much information to resolve, and conscious analysis of the situation is difficult or impossible" [5].

In which way the rational information and intuitive information in the form of creative and original momentum

can produce the best results in decision-making and problem-solving was proposed in 1926 by American scientist Graham Wallas, a well-known scheme of the creative thinking process today. Wallas divided this process into four stages:

- the first phase – PREPARATION - involves gathering relevant information about a problem, finding a rational solution, and thinking about it.
- the second phase – INCUBATION - putting the problem aside. Period of apparent halt. In reality, deep, unconscious work on the task unfolds whereby at a conscious level one does not have to think about it at all.
- the third phase - ILLUMINATION - inspiration, discovery, intuitive information (Aha! Effect). It always comes unexpectedly, instantaneously, and similar to a fast gallop. At that moment, the solution is born in the form of symbols, images that are difficult to describe in words.
- phase four – CHECKING - the form is shaped in words, thoughts are put in a logical order, discovery is scientifically argued, the physical manifestation of a solution or decision arises [6].

In their scholarly work, *People Like Logical Truth: Testing the Intuitive Detection of Logical Value in Basic Propositions*, Hiroko Nakamura and Jun Kawaguci, and according to De Neys, W. Bais and Conflict, timely confirm that apart from managing information and making decisions based on by understanding the mind, we can equally validly manage information from intuition: Recent reasoning studies proposed that people possess intuitive logic as well as intuitive heuristics and that these two intuitive processes enable people to intuitively detect heuristic-logic conflicts and engage in analytic processes [7].

T. Babic, S. Papic, and M. Babic also suggest in their scholarly work *Intuitive Communication versus Rational Communication among Computing Students at Algebra University College* that decision making through information management using intuition is faster, more efficient, and more accurate. "When a decision-making process is based on intuition, decision-makers consciously recognize a problem through the perception of relevant cues and patterns, non-consciously activate all the cognitive schemas associated with the problem, non-consciously make holistic associations across cognitive schemas, and consciously generate a solution. The intuitive process includes problem definition, analysis, and synthesis, just like rational information processing, but these stages occur faster and are mostly non-conscious and deeply intertwined. Additionally, intuitive judgment is effectively charged and accompanied by a feeling of certitude and the perception that one's intuitions are correct, despite the lack of rational analysis" [8].

As far as business is concerned, businessmen are divided when considering the use of intuition in business decision-making, with some saying that there is not a single top manager who has not listened to their gut feeling and that they have had exceptional instinct (Forbes) [9]. But maybe those who say, like in the Harvard Business Review, that our gut is untrustworthy may not be wrong. If we

consider that, as Bruce Henderson said, founder of the Boston Consulting Group, in 1977, that the intuition is “the subconscious integration of all the experiences, conditioning, and knowledge of a lifetime, including the cultural and emotional biases of that lifetime, and researchers have shown that our unconscious desire to identify patterns is so strong that we routinely perceive them where they don’t in fact exist” [10].

It can be concluded that an overwhelming desire for "superhuman power," as Eric Bonabeau calls it in Harvard Business Review, can lead to terrible decisions, because our brains, when confronted with a new phenomenon, try to categorize it based on our previous experiences, to fit it into one of the patterns stored in our memories. But, in making that fit, some people inevitably filter out the very things that make the new phenomenon new - and rush to recycle the reactions and solutions from the past [10].

How to distinguish between ratio-imposed solutions and intuitive solutions that come from "higher self" may be the biggest question of them all. After humans have mastered the tools of logical reasoning, perhaps scientists should embark on the development of tools that can help us in the deeper internal development of human beings, and thus the intuition that is placed "within" man.

V. THE RESEARCH METHODOLOGY

A. The Research Goals

The general research objective was to examine and determine whether students predominantly base the way they manage information relying on their intuition or their ratio, in their private, as well as in the professional environment.

1. Do students rely on intuition in different life situations?
2. Do students base their information management on intuition or ratio?
3. To what extent do students consider intuition as a reliable information management tool?

B. The Research Sample

The research was conducted among the Baltazar Zaprëšić University of Applied Sciences and the Algebra University College students. A sample of participants was statistically significant.

The total number of population sample was 205 participants, which included 125 Baltazar Zaprëšić University of Applied Sciences students of economics (61 %) and Algebra University College 80 of computing, digital marketing and market communications students (39 %). The majority of participants were undergraduate students; 170 of them (83.4 %), while 34 (16.6 %) of participants were graduate students. 139 of students (67.8 %) were female and 66 (32.2 %) were male.

The structure of all surveyed students according to the study program is presented in Chart 1.

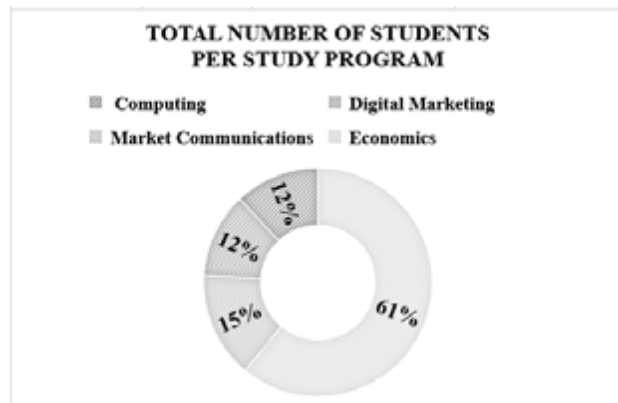


Chart 1. The structure of the participants per Study Program

C. The Research Methods

The research was conducted through an anonymous voluntary survey during the winter semester of the 2019/2020 academic year.

A specially designed questionnaire in the Google Forms tool had 12 closed-ended questions, of which 4 were related to demographics. One of these questions included 10 statements for which respondents could indicate the degree of agreement with the statements. For 4 questions answers were defined with the degrees of frequency according to the Likert scale. 3 questions had predefined 5 answers related to intuition and ratio. To ensure a clear understanding of the terms, a descriptive definition of terms of intuition, ratio, and information management was specified at the beginning of the survey.

A quantitative method was used for the analysis of the research results. Through the Google Forms tool, was made the data processing of the survey results.

D. The Research Results

1. Do students rely on intuition in different life situations?

The research results have shown that 57% of the total number of surveyed students often or always rely on intuition in everyday life, and one-quarter of them rely on intuition periodically (26 %). Only 1 % of students never rely on intuition in everyday life while 8 % rarely rely on it. Distribution of the answers if students rely on intuition in different life situations is presented in Chart 2.

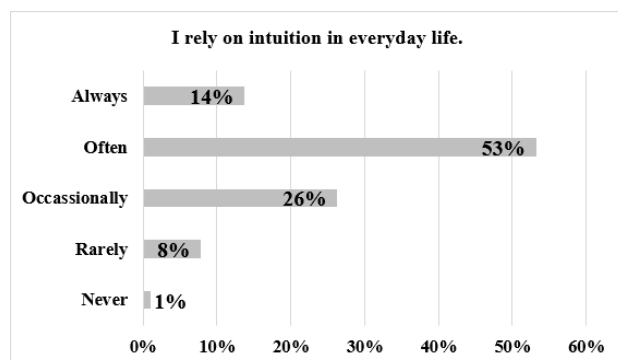


Chart 2. Distribution of the answers to the question: How often do you rely on intuition in everyday life?

When it comes to relying on intuition in different life situations 48.3 % of the students claim that they do it periodically and 9.8 % do it rarely. On the contrary, 38 % rely on intuition in most cases, while 4.4 % claim that they do it always. Only 1% of students never rely on intuition in different life situations.

More than half of the surveyed students (54.6 %) consider that other people periodically rely on intuition in different life situations and 22.4 % of the students claim that other people do it rarely. On the contrary, 21 % consider that other people in most cases, 2.9 % that they do it always, while 1% consider that other people never rely on intuition in different life situations. It is interesting to notice that other people believe their intuition more often than they believe their intuition.

2. Do students base their information management on intuition or ratio?

In the professional environment, 45.9 % of the total number of students base their information management on a combination of intuition and rationality, but rationality prevails, and 36.1 % of participants rely on the combination of intuition and rationality to the same extent. Only 8.3 % of participants base their information management in the professional environment exclusively on rationality, and only 1 % exclusively on intuition, while 8.7 % use a combination of intuition and rationality, but intuition prevails. Distribution of the answers if students base their information management on intuition or ratio in the professional environment is presented in Chart 3.

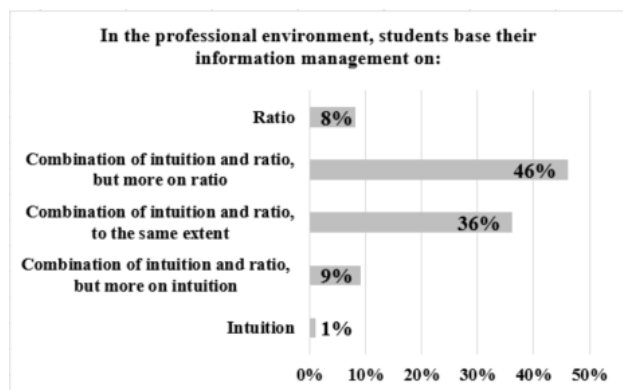


Chart 3. Distribution of the answers to the question: *In a professional environment, what is your information management based on?*

In the private environment, 33.2 % of total number of students base their information management on a combination of intuition and rationality, but rationality prevails, 30.2 % of students base their information management on a combination of intuition and rationality, but intuition prevails, while 27.8 % of participants rely on the combination of intuition rationality to the same extent. Only 5.4 % of participants base their information management in the private environment exclusively on rationality, and only 3.4 % exclusively on intuition. Distribution of the answers if students base their information management on intuition or the ratio in the private environment is presented in Chart 4.

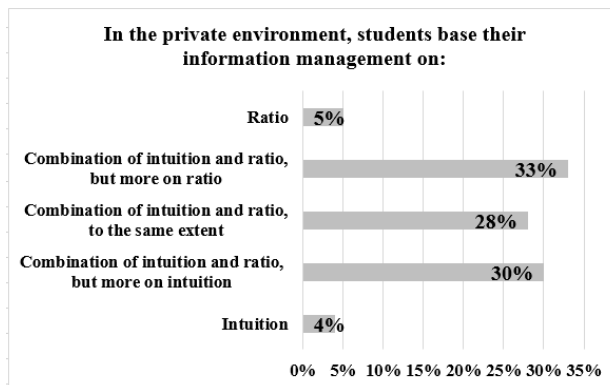


Chart 4. Distribution of the answers to the question: *In a private environment, what is your information management based on?*

Regarding the question does intuition help them to estimate if the received information is true, results have shown that the highest percentage of participants (47.8 %) consider that intuition helps them often, to 33.7 % helps periodically, and to 9.3 % of respondents intuition always helps. 8.8 % of students rarely rely on intuition to help them to estimate if the received information is true, and 1.5 % never do it.

In communication, 57.4 % of respondents agree that intuition and rationality have equal importance (of which 12.9 strongly agree), while 18.3 disagree (of which 4.5 % strongly disagree). 24.3 % of them neither agree neither disagree with the statement. In the decision-making process, 31 % of students agree that intuition is more important to them than rationality (of which 5.4 % strongly agree), 30 % disagree (of which 5.9 % strongly disagree), while 39 % neither agree neither disagree with the statement. In making any decision, 23.5 % of respondents agree that one should and can rely entirely on intuition, of which 5.5% strongly agree, 42 % disagree, of which 12.5 strongly disagree, and 34.5 % neither agree neither disagree with the statement. 26.9 % of respondents agree that for them making decisions for the future is impossible to judge rationally but purely intuitively, of which 4% strongly agree, 33.7% disagree, of which 9.5 % strongly disagree, but most of them; 38.7 % neither agree neither disagree with that statement.

3. To what extent do students consider intuition as a reliable information management tool?

For 12 % of students in total intuition is an unreliable tool, of which 4 % consider intuition very unreliable, but for most of them (50 %) intuition is a reliable tool, of which 9.3 % consider intuition very reliable. 38 % of students consider that is intuition neither a reliable nor an unreliable tool. Distribution of the answers if students consider that intuition is a reliable information management tool is presented in Chart 5.

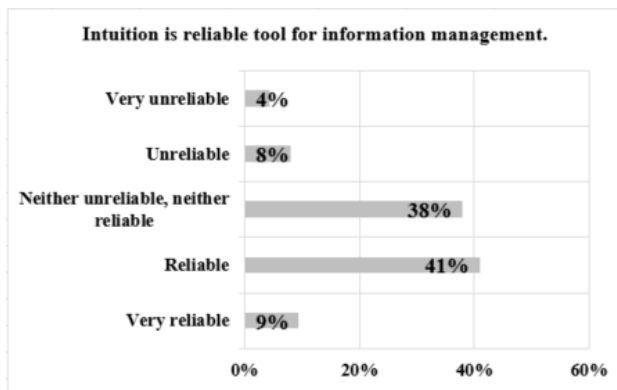


Chart 5. Distribution of the answers to the question: *According to your opinion, intuition is a reliable tool for information management?*

53.7 % of students agree that they always start with rationality, but if intuition persists to do the contrary - they listen to it, of which 15.4 strongly agree. 13.4% of students disagree with that statement, of which 2.4% strongly disagree, but 32.8 % neither agree neither disagree with the statement.

When it comes to work, 62.7 % of students agree that they give preference to rationality, of which 23.4 % strongly agree). 25.9 % neither agree neither disagree with the statement. Only 11.4 % of respondents disagree, of which 3.5 % strongly disagree. 72.4 % of students estimate that with the combination of intuition and rationality the best results are achieved, of which 31.2 % strongly agree with the statement. 90.5% disagree, of which 2.5 % strongly disagree, and 18.6 % neither agree neither disagree with the statement. Regarding the statement that intuition should be taken with a dose of the reserve because of the possible influence of emotions on it 66.4 % of students agree, of which 24.4 % strongly agree. 13.2 % disagree, of which 5% strongly disagree, and 20.3 % neither agree neither disagree with this statement.

It is interesting to notice that 56.3 % of student agree that whenever they ignore a strong inner feeling, always regret it later, of which 18.1 % strongly agree. 15.8 disagree, of which 5.5 % strongly disagree, 28.1 % neither agree neither disagree.

E. Limiting elements of the research and recommendations for further research

The study was conducted on a small sample, it would be advisable to conduct it on a larger sample.

Also, it would be advisable to consider longitudinal research of the development of students information management skills, which they have embraced under the influence of formal education – do they change attitudes toward the use of intuition and ratio with the increase of life experience, and what circumstances specifically influenced attitudes to change, if so.

Besides mentioned, in future research, the distinction could be made between male and female students, and it would be recommendable to check for statistically significant differences in relying on intuition between students from different scientific fields or study programs.

VI. CONCLUSION

The results of the conducted survey among 205 students in a total of the Baltazar Zapršić University of Applied Sciences and the Algebra University College students showed that more than half of the surveyed students use intuition in everyday life.

It is interesting to notice that in the professional environment, almost half of the total number of students base their information management on rationality and more than half of surveyed students to give preference to the ratio in business. But in the private environment, they rely a lot more on intuition. It is worth mentioning that only every tenth student rarely or never relies on intuition.

Although they mostly agree that it is necessary to take intuition with a dose of the reserve because of the possible influence of emotions on it, it is interesting to notice that two-third of the total number of surveyed students confessed that whenever they ignore a strong inner feeling, always regret it later.

Unlike hard skills, which can be proven and measured, soft skills are intangible and difficult to quantify [11]. Precisely because of the difficulty of detection and measurability, initial surveys such as this must rely on the attitudes and assessments of the respondents, but this is not a reason to discontinue the research. Although the area of the so-called soft skills is still rather unexplored and blurred, this research aimed to contribute to clarifying the same, as experts agree that the future is no longer imaginable without them. When mastery-based expertise is mastered, what distinguishes the good from the great? Many great people throughout history have highlighted their inner feeling as a factor x that has raised them above average. Science still has a lot of work to do; how to determine if it is a skill that can be mastered, how to define it, how to measure it. But it is certainly important to continue research in this area because although computerization is based on smart devices, which could even master rationally based algorithms, it is precisely the "human", under whatever term we consider, will not be able to replace.

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