WISDOM-BASED THINKING FOR UNIVERSITY STUDENTS

Prof. Dr. AbdulAziz Hayder Al-Musawi
M.A. Student: Fatimah Hawan Mohammed

ABSTRACT

The study aims to identify the wisdom- based thinking for the students of Al-Qadisiyh University in Iraq. The scale of wisdom – based thinking has been built consisted of 36 items. As a result, the university students have this type of thinking and it is influenced by the sex of the students and the class.

Problem of the study:

Thinking is a multidimensional concepts where views diverge about it. Thinking is what happens in the mind of different processes, which precede saying and acting, "It means that we start to understand what we feel then evaluate what we understand in an attempt to solve the problems that hinder our daily life. "There are several types of thinking individuals can practice. The most important type is the wisdom-based thinking, which requires from the individual to contemplate attentively, and reflect on the components of the situation and learning to reach this way of thinking through the experience he passes through. It includes the ability to employ all his knowledge, intelligence, creativity and learning from others experiences for the sake of his goals and public interest. Through this type of thinking, the individual deals wisely with things in his surrounding, solve problems and face hardships because thinking is not motivated unless the individual faces a problem and he feels it and influences on him, and he needs to find a solution for it. In this way, there will be a balance between personal interest and others interests through adopting long and short term moral values. Students are in need to develop their skills in wisdom based thinking where they face in their daily life a lot of problems on the study and social levels. In order to be successful in their lives, the students should be able to face these daily problems. Therefore, the students have to manipulate their wisdom to take the right decision. The study tackles a very important wide spectrum in society and a specific age that is the university students. Because they are in a high educational level, it is supposed they are able to think actively and wisely, and they have

the ability to take right decisions to solve problems that impede their way according to the prevailing social norms and traditions. The researcher feels that it is necessary to investigate the wisdom-based thinking for the students where many university students have the ability to make right decisions. The problem of the study is identified by answering the following question: What is wisdom-based thinking for the university student?

Importance of the Study:

God creates man and distinguishes him from other living species. He blesses man with several graces including thinking, which attracts many researchers and philosophers throughout history. All philosophical, intellectual, educational and psychological schools pay attention to develop students' thinking so that they will be able to face hardships and problems that impede their way whether in academic, social, economic, educational, economic or moral levels. Thinking is a gift from God to man, and it represents the most complicated type of behavior and it is a product of man's brain. Thinking is a supreme mental and cognitive process involves reorganizing parts of the situation in a new method, which allows to realize relations or solve problems. Thinking also includes other processes like mental and cognitive processes like attention, perception and remembrance in addition to other skills like taxonomy, analysis, composition, comparison and generalization. The importance of the study stems from the significance of the wisdom-based thinking, which means mental and behavioral situation includes integration, balance and interaction between mental and passion aspects and motivation in human behavior.

Wisdom in thinking can be the perfect situation in human behavior for two reasons:

First: According to philosophers and anthropologists, it represents the highest level of knowledge in events and means of life.

Second: Wisdom is characterized by its generality because it is a result of high level of abstraction, which includes diversity; caring about the individual with certain degree of privacy. Wisdom-based thinking is seen as a perfect human performance that involves insight, recognizing the soul and the world and taking right decisions. Several studies investigated this topic as (Abu Jado and et al, 2014) in which it investigates the level of wisdom-based thinking for educational leaders. The results showed that the level of wisdom-based thinking is high and there are no differences between the two sexes. Another study aims to develop wisdom for teenagers and adults. The results showed that the wisdom takes a developmental course but not a constant one through age. The

developmental course is not influenced by the type of the individual (males or females) so the arrival of students to the university, which is turning point in their lives. They move to an important and new stage so their behavior and act should be appropriate to the stage in which they face a new kind of relations and life. They have to adjust themselves with new values, and here comes the importance of the university life in building the student's personality in different aspects (psychological, cognitive and skills). Gharaiba's 2014 study investigates the relations between wisdom-based thinking and the system of values. The results showed that wisdom-based thinking level was high but the values system was average. It found out that there is a positive correlational between cognitive dimensions of wisdom-based thinking and religious and social values.

Objective of the study:

- Identifying wisdom-based thinking
- The significance of differences in wisdom-based thinking for the university students according to sex variables (males and females), specialty (scientific-humanities) and the class (second-fourth).

Limitation of the study:

The study is limited to the sutdents of Al-Qadisiyh university for the academic year 2015-2016/ morning study including scientific and humane colleges/ second and fourth year students.

Definition of the Terms:

- Theoretical definition of wisdom-based thinking: Brown and Green defined it as a pattern of thinking that includes self-knowledge, emotional management, altruism, inspiration, making decisions, know life and skills and willingness to learn (Brown & Greene, 2006).

Procedural definition of wisdom-based thinking:

I refers to the mark that the respondent receives on the scale of thinking, which is designed by the researcher.

Theoretical Background:

The concept of wisdom-Based thinking:

The controversy about wisdom-based thinking does not prevent researchers to dig deep into it. Also, oriental and western religions take care of wisdom. According to (Brugnanns, 2000) the first publication about wisdom was published in 1959. The work

of (Glayton & Birenns, 1980) in 1972-1982 affirmed the wisdom can be studied empirically. So the working wisdom is a new attempt where (Baltes &Smith), in Max Blanc institute in Germany, considered wisdom as an imaginative concept due to the diversity related with knowledge, which depends on pragmatic philosophy which expects to give new judgment based on human experiences. Baltes &Smith confirmed the importance of wisdom in helping the individual to adapt with changeable conditions of life. The positive movement of psychology affirms that the understanding of human functions, which based on inability ignores the ways man use to avoid problems and difficulties that face them in their life. (Sternberg 1985, Wink & Helson 1997, Baltes & Ardet 2000, Webster 2007, Smith 1990). Based on this, wisdom is not a modern concept comes with advanced technology, but it is an old one as knowledge and culture. The empirical study starts in the seventies as confirmed by (Birren & Svensson, 2005). Wisdom takes the lion's share in modern studies especially in gereology and psychology. Also, there are other models of wisdom, but most of them are attempts to distinguish and understand the emotional, social and moral features, which distinguish wise people (Sternberg, 2003, Ardelt, 2004). But there is no agreed upon definition for wisdom as (Jeste, et. al. 2010). There is no agreement about definition of wisdom despite descriptions and evaluation scales (Lovenon, et.al. 2005). There are definitions for wisdom, (Ardelt) discusses that the definition of wisdom is still complex and hard to understand because wisdom is multidimensional concept, but the attention is paid towards methods of performing wisdom (Ardelt, 2004). (Sternberg, 2004) defines wisdom as the knowledge of different human conditions and the knowledge of the most difficult questions, and what is related to the meaning of life and how to behave in it despite life complications and its obscurity. Also, wisdom is defined by (Baltes & Smith, 1990) as the experience in the basics of real life, which allow to reach to exceptional views, judgment and advices. While (Kunzmann, 2004) Sees wisdom as a complete and perfect integration of knowledge and personality; between mind and virtue. Descartes views wisdom is meant not only prudence in our everyday affairs but also a perfect knowledge of all things that mankind is capable of knowing, both for the conduct of life and for the preservation of health and the discovery of all manner of skills. According to Descartes, he does not mean prudence in business only, but it is a complete knowledge of everything that man can know whether on the level of his life conduct or preservation of his health and inventing arts. As (Sternberg,1990, 1998) thinks that wisdom is an application of intelligence, creativity and knowledge, which

direct trends to achieve positive common values through balancing personal and social components of the individual, and his interests in the environment he lives in. It means that wisdom is a process of adopting characteristics of life and choosing a new one in different environment. Also, (Kreemer, 2000) sees that wisdom can be understood as a rare, influential and developed form of cognitive perception and a mature behavior, which allows an exceptional degree of sensitivity, prudence and thinking. It should be noted that some researchers agreed on that the concept of wisdom has certain features, which complete each other. For example, (Baltes & Stuadinger, 2000) views wisdom as something can be deduced from experiences and the meaning of life. The definition they proposed sees wisdom composed of other factors, which are defined as the ability to understand human nature and deep knowledge in dealing with practical sides of life, and how to use visions and goals to achieve success. It may also include listening, evaluation, giving advice and the ability to make judgment in addition to understand meaning of life, world realization to use this knowledge in elevating his life and others. (Kazdin, 2000) shows that wisdom should be looked at as a type of perfect human behavior, which includes insght, self-knowledge and the world and making right judgment about complicated issues in life. (Bergsma & Ardelt, 2012) refers to the cognitive aspect of wisdom is related to the willingness of knowing truth, based on this it should not be looked at as referring to the actual knowledge only but it refers to the deep understanding of private life on the individual and self levels. Also, (Ardelt, 2004) concludes that wisdom is far-reaching and we should understand it as multidimensional thing. (Browna & Greene, 2006) refers to the practical papers on wisdom as promising ones in addition to some problems related to performance methods of wisdom and the type of psychological tests and the tools of measurement.

Components of Wisdom- Based Thinking:

(Baltes & Stuadinger, 2000) refers to six of wisdom components:

1- Behaviours and positive social tendencies.
2- Making social, cognitive and practical decisions for life.
3- Emotional stability
4- Meditation and self -understanding.
5- Relativity of value and tolerance.
6- Admitting skepticism and obscurity, and dealing with it positively.

(Ardelt, 2004) affirms that there are three dimensions for wisdom:

1- Cognitive ability to understand the situation completely, and know the positive and negative aspects of human nature to realize the inherited skepticism in life. Despite all that, am has the ability to make decision.
2- Meditative ability and desire to look for in this phenomenon to avoid projecting the individual's situation and his feelings on others or blaming them for an action.
3- Positive feelings, emotions and behaviors, which are empty of indifference and negative feelings toward others, and maintaining the positive situation when facing hardships.

According to (Baltes & Stadinger, 2000) if wisdom is taken from historical, religious or psychological, it will be composed of five major components:

1- Abundant procedural knowledge related to man's nature, development, relations, social criteria and basic events of life.
2- Abundant real knowledge about decision making, disputes settlement and the importance of fulfilling goals in life.
3- Recognizing the life-long extended context; the temporary vision for the life of the past, the present and the future. Also, admitting the existence of many other context.
4- Admitting the availability of values and the existence of self- situation.
5- The ability to realize and manage what is unconfirmed; being ready to admit the unconfirmed aspects in life.

Also, there are three components in the cognitive theory about wisdom:

1- Metacognition
2- Doubt
3- The ability of dialectical thinking

According to (Brown &Greene, 2006) model, wisdom includes six interrelated and interlaced fields:

1- Self-knowledge and emotional management.
2- Altruism
3- Inspiration
4- Passing judgment
5- Realizing life and its skills.
6- Willingness to learn.

This model is considered the basis of the study to clarify the development of wisdom, and what is influenced its development. After that in (2009), they developed the concept of wisdom as in the diagram below:

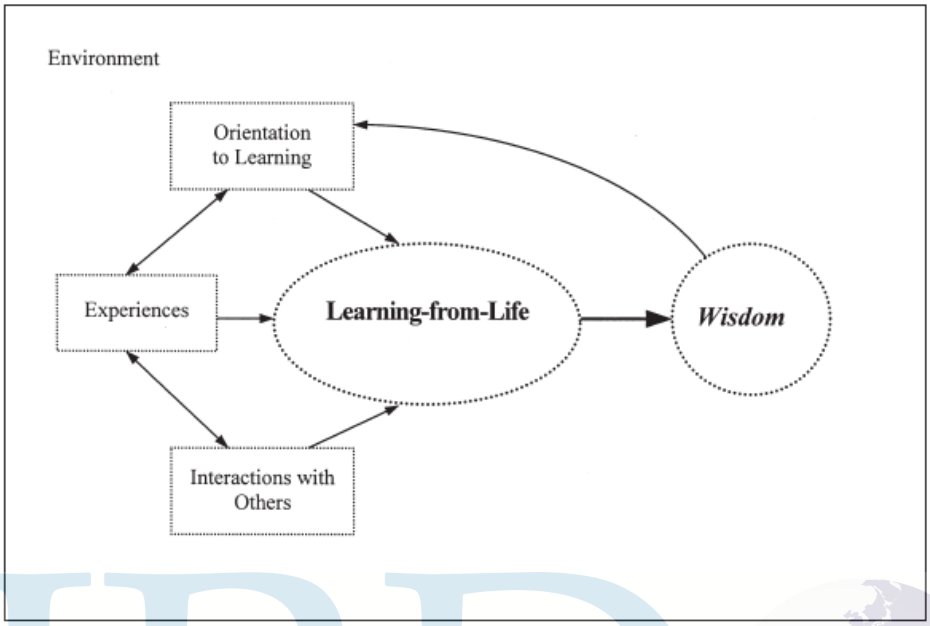

Diagram (1) Brown & Greene's model to develop wisdom (Brown and Greene 2009:293).

There are great similarity in (Brown &Greene, 2006) aspects or dimensions of wisdom with other scholars:

"exceptional understanding of the essence, presumption and passing judgment" (Hollidey& Chandler, 1986) is similar to the aspect of life knowledge and its skills. (Brown &Greene). For (Stuadinger, 1990) it is " a deep understanding for the self and others." For (Schuman, 1982) it is a "field of polishing and refining the individual's feelings of self-trust as being appropriate in different conditions of life," which is similar to self-knowledge of (Brown &Greene).

Acquiring Wisdom-Based Thinking:

Acquiring wisdom according to (Brown &Greene) is through " learning from life", where people interact and apply the experiences they learn in their life. The direct conditions that contribute to develop wisdom are preparing individuals for learning through experiences and interaction with others as explained in the previous diagram. The scholars refer to the conditions that occur in a specific direction affect on acquiring wisdom. Among the important factors in acquiring wisdom are:

1- Familial surrounding: the family is considered the important factor for the individual. If there is a wise and educational method in the family, it will allow

the individual to acquire the features of wisdom and implement this wisdom in the family. As a result, there is an increasing possibility the person will be a wise man. According to (Baltes &Smith, 1990) wisdom grows through experiences and through exposing to wise behaviours of the family members. The parents' awareness of the wisdom dimensions and its application in their behaviours with children make it possible to convey it to other children.

2- Motivation toward knowledge: The individual's motivation toward achieving a goal may enable the person to reach that goal. So, the person's action, which is motivated by willingness of reaching knowledge and wisdom and the right path increase the possibility of fulfilling goals as confirmed by some scholars: (Baltes & Stuadinger, 2000).

3- Age: Although there are no sufficient evidences that wisdom develops as an indicator of age, some studies refer that is increases with advance of age. (Baltes & Smith 1990). Also, (Meacham, 1990) sees that some children show wisdom in their behaviours, which means that wisdom is available in all ages but in various degrees. The strongest opinion is that wisdom is not necessarily grow with the progress of age but maturity is one of the necessary requirement for wisdom development.

4- Cultural factors: deeply rooted nations in history and culture have a great treasure of wisdom (proverbs, tales, poetry, legends and wisdoms), where people can derive what they need for all life situations, which makes their behaviours more wise.(Labauvie, 1990).

5- Professional experience: they created a fertile atmosphere to acquire wisdom especially of interacting with people for a long time. Also, communicating with people is one of the factors that facilitate acquiring wisdom. In addition to the daily events and wise practices and openness for different experience whether in work or life, which are considered as wisdom predictors.

6- Communication skills: The wise individual should have amount of communication skills as listening skill and discussion skill. Because listening is one of the important factors of acquiring experience from others, understand them, sympathize and give them advice. Also, discussion enables the individual to understand and discover the weakness in others argument and convince them in what he believes is the right. Based on this, communication skills are the pillars of wisdom (Baltes & Smith,1990).

7- Inference and critical thinking: The person who has the ability of inference, the ability to predict what will happen in the light of realistic clues and has realistic conclusions about events, issuing precise judgment, identify the defect in what others say or do, the ability to analyze, evaluate and find out contrast. All these skills are necessary for the person who wants to be wise. As far as intelligence role in the level of wisdom is concerned, (Baltes & Smith,2008) found that intelligence is the strongest factor for teenagers than adults when practicing wisdom. (Kromer, 2000) proposes that the wise people think dialectically and show some sort of creativity and worry about others.

Research procedure:

The chapter presents the procedures of the study as methodology, identify its population, selecting the sample, tools used in measuring and the measures of applying on the sample using appropriate statistical methods to analyze the data:

First: Research methodology: It is the method or the style that the researcher used in his research or study the problem to reach the appropriate solution or deduce some results. The study uses the descriptive method because it suits the present study. The method can be depended in studying features, abilities, tendencies and thinking (Knupfer & McLellan 1998, p.1199).

Second: Population of the Study:

Population is any group of individuals and things that have one or more common aspects (Barreiro& Albandoz 2001: 2). The present study population is represented by students of Al-Qadisiyah university, undergraduate stage, morning study. They are (8678) students (male and female) distributed according to specialty (scientific and humanities), stage (2^{nd} and 4^{th} years), where (4428) female students and (4805) male students, (4805) second year students and (4591) male students. As for specialty, there are (3737) students from humanity study, and (4941) students of scientific study.

Sample of the Study:

The sample is part of the statistical population under investigation. Data is collected directly through that sample, or it is a process of selecting a group of individuals due to the difficulty of investigating the population. (Pelham, 2006). The researcher uses Stratified Random Sample method in selecting the sample because it is the most appropriate method. The method requires from the researcher to choose items from every class randomly as they fit their real size in the original population (Van

Dalen, 1985:393). Two samples are selected by using proportional method, the first is the sample of analysis items, which includes (282) students, and the second is the sample of the final application includes (470) students. Table No. (1) shows the two samples.

Table No. (1) Distribution the sample individuals according to the variables, sex, specialty and the class.

college	Statistical analysis sample							Primary sample						
	2nd year		4th year		total		Grand total	2nd year		4th year		total		Grand total
	F	M	F	M	F	M		F	M	F	M	F	M	
pharmacy	2	1	1	1	3	2	5	3	2	2	1	5	3	8
computer college	6	8	3	2	9	10	19	9	13	4	25	13	39	52
Agriculture	3	5	2	3	5	8	14	5	8	2	3	7	11	18
education	19	13	29	21	49	34	82	32	21	30	28	62	49	111
Administration &economics	4	7	5	12	9	19	28	7	12	11	23	18	35	53
Arts	14	12	12	17	26	29	55	24	20	20	20	43	40	83
Vet. college	1	1	0	1	2	2	4	2	2	1	2	3	4	7
Physical education	2	4	1	3	2	7	9	3	7	1	8	3	14	17
Sciences	3	3	2	2	5	5	11	5	5	4	4	9	9	18
biotechnology	0	0	0	0	0	0	0	3	1	0	0	3	1	5
law	3	3	3	6	6	9	15	5	5	6	12	11	17	28
Fine arts	1	0	2	0	2	0	2	1	0	2	0	3	0	3
dentistry	0	0	0	0	0	0	0	3	2	0	0	3	2	5
medicine	3	1	2	1	5	3	7	4	2	4	4	8	6	14
Education for women	3	0	5	0	8	0	8	5	0	5	0	10	0	10
nursing	6	4	0	0	6	4	10	11	6	0	0	11	6	17
archaeology	1	3	0	0	1	3	4	2	4	0	0	2	4	6
engineering	3	1	2	3	5	5	10	5	2	2	5	7	7	14
total	73	66	71	73	144	138	282	128	112	93	136	222	248	470

Tool of the Study:

In order to achieve the goals of the present study, it requires a tool to measure wisdom-based thinking, and since there is no scale, according to the researcher's knowledge, so the researcher establishes a scale to measure wisdom-based thinking as the following:

A- The concept of wisdom-based thinking:

(Allen & Yen 1979) refers that building up a scale should pass through the following basic steps:

1- Planning for the scale to specify the fields its items cover.
2- Collecting and drafting items.
3- Introducing items to some specialized experts.
4- Applying the items on the sample of the study population to analyze items statistically. (Allen & Yen 1979, p.118).

Based on this, the researcher takes the following steps:

A- Identifying the concept of wisdom-based thinking

The researcher depends on (Brown & Greene, 2006) theory to establish the scale, where the theoretical definition of the concept of wisdom- based thinking according to the theory as (a pattern of thinking, which includes self- knowledge, emotional management, altruism, inspiration, passing judgments and willingness for learning).

B- Identifying areas of the scale:

The researcher identifies six fields for the scale with a definition for each area in wisdom- based thinking according to (Brown & Greene, 2006). These fields are:

1- Self- knowledge and emotional management: It is the individual's knowledge of his weak and strong points, values, interests, intellectual beliefs and control pressures and emotions efficiently.
2- Altruism: it describes the individual's ability to use his potentialities to serve others, and favors public interest on his personal interest, and how he changes his behavior if he causes hurt for others.
3- Inspiration: It is the individual's ability to influence others, advise them to overcome any problem and makes himself an example to be followed and showing his trust in their abilities.

4- Passing Judgment: The individual's ability to understand real life in making and taking decisions through utilizing knowledge and his ability to establish friendly relations with others.

5- Life knowledge and its skills: It describes the relationship between the individual, materialistic and social world and search for the meaning of life and accept it with all its obscurity. The ability to manage time and set up priorities to achieve goals and commit to the ethical codes of work.

6- Willingness to learn: it means the individual's ability to identify his needs to continue seeking knowledge and experiences in addition to accept others and their criticism.

C- Preparing items of the scale in its first draft:

After identifying the areas included in the scale of wisdom-based thinking, the researcher derived the items as it is appropriate with the definition of each area and its dimension, where the items are related to the area, and conforms with the nature of the study population. There are (36) items to cover all areas, which are formulated using affirmative phrases. There are (6) items distributed for each area, which includes (15) negative items, and (21) positive items distributed on the scale areas, which they conform with the idea of the scale.

- Gradation response and correcting the scale:

The researcher depends on (Likert) style in finding alternative for the items of wisdom-based thinking because this style is clear and easy and widely used in psychological studies and scales. It does not need great effort to calculate values of the items and their weight (Essawi, 1974: 391). The alternatives of the answer will be (apply on me quietly, apply on me, apply on me fairly, does not apply on me, does not apply on me completely).

- Preparing scale guidelines: Scale guidelines are the guide that clarifies the way of answering the items of the scale, which involves instructions help students to answer the appropriate answer. The researcher drafts several phrases that the students may agree or disagree with them. Answering these phrases does not mean that the student is right or wrong, so it is required from each student to read each item attentively to define his opinion through putting the sign (✓) in front of the item that matches him or any another sign, and mentioning an illustrative example on how to answer other items. The researcher conceals the purpose of

the scale so that the respondent will be affected when he/ she answers. Also, there is no need to mention the name of the respondent, and nobody is debriefed on the answers except the researcher, and it is for scientific purposes only so that to reassure the respondent.

D- Validity of scale items: this process refers to the extent of representing the scale for the variable to be measured. It is necessary in the beginning of preparing items because it show how far these items are prepared for each area on the scale. In order to verify the validity of the items of the scale of wisdom- based thinking, the scale of (36) items, (6) items for each area is presented for a group of specialists in "psychological and educational sciences" (Educational psychology). The presentation includes a theoretical presentation the researcher adopts, define each area individually, presenting items, alternatives of answer and instructions then they show their views and observations regarding the validity of the scale items, and how far the items match the area that belongs to it, and this is the way of measuring face validity through consulting specialist arbitrators to evaluate how far the items represent the purpose the they designed for, which makes the scale more appropriate for the present sample and the trait wanted to be measured. After retrieval the survey from the arbitrators, emptying and analyzing data, all the items stay as they are (appendix No. includes the scale in its final version). In order to judge on the validity of the items according to arbitrators views and observations, the researcher adopts Kolmogorov Smirnov Test for the nominal data whether to keep the items or not. This method is used to test the same hypothesis, which is tested by (chi sq.) in case of a single sample. It is preferred to use this method rather than (chi sq.) for several reasons:

1- It is better to use when the number of the sample members is not too many, no more than (30) persons. The results will be more accurate than (chi sq.). Since we have (24) experts, it is favorite on (chi sq.) in this respect.

2- It is easier to conduct statistical processes, as the following:

A- Extracting observed cumulative frequency.

B- Extracting expected cumulative frequency.

C- Extracting observed cumulative proportion.

D- Extracting expected cumulative proportion.

E- Subtract the observed proportion from the expected proportion through subtracting the minor proportion from the major one, (regardless of the sign) so that we will not have a negative sign "absolute value."

F- Calculating the value of (KS) through the greatest value of difference among proportions.

G- Comparing the calculated proportion (KS) with the schedule value at the level of significance at the freedom degree(n) not (n-1). It becomes 24-2=23 (Conover 1999:429). So all (36) items are kept as shown in table No.(2). The number of wisdom-based thinking items of the scale, which is prepared to be applied on statistical analysis sample are (36) items. There is no item deleted and some of them stay as they are, others are amended in the light of the arbitrators observations.

Table (2)

Arbitrators (experts) agreement on the validity of the scale items of wisdom- based thinking through using Kolmogorov- Smirnov Test for the nominal data.

Field	items	arbitrators		calculated Kolmogorov Smirnov	Kolmogorov Smirnov table	Acceptance or refusal
		Pros.	Cons.			
Self-realization & emotional management	2, 3, 5	24	-	0.5	0.275	Accepted as it is
	1, 4, 6	22	2	0.416		Accepted after amendment
Altruism	9, 11, 12	24	-	0.5		Accepted as it is
	7, 8, 10	21	3	0.375		Accepted after

						amendment
inspiration	14, 15, 16, 17, 18	23	1	0.458		Accepted as it is
	13	21	3	0.375		Accepted after amendment
Judgment issuance	19, 23, 24	24	-	0.5		Accepted as it is
	20, 21, 22	22	2	0.417		Accepted after amendment
Life-knowledge and its skills	25, 27, 28, 30	24	-	0.5		Accepted as it is
	26, 29	21	3	0.375		Accepted after amendment
Desire for learning	32, 34, 35	24	-	0.5		Accepted as it is
	31 ,33, 36	22	2	0.417		Accepted after amendment

H- Answers alternatives and their weights (correction keys):

After drafting wisdom- based thinking items, they were phrases of positive significance (+) and negative one (-), then weight is given for each item according to its significance as in table (3)

Table (3)

Answers alternatives and their weights for wisdom-based thinking

	Items	apply on me quietly	apply on me	apply on me fairly	does not apply on me	does not apply on me completely).

1	Items of positive significance+	5	4	3	2	1
2	Items of negative significance-	1	2	3	4	5

- Clarity of the scale guidelines and items:

It is necessary to ensure the understanding of the sample members to the items of the scale. In order to identify the clarity of the items of the scale as for the way of drafting and meaning, the clarity of its guidelines and alternatives to find out the obscure items to modify them and calculate the average of time taken to respond on the scale, the scale is applied on random sample of (50) male/ female students. The result is that the scale items and guidelines are clear and understood. The time of answering questions is (25-35) minutes.

- Psychometric properties of the Scale:

Scale Psychometric properties include, the scale ability to achieve the mission it is prepared for. In order to keep the good items on the scale and to ensure their ability to distinguish between individuals and the measured trait. The specialists agreed on psychometric that validity and reliability are the most important psychometric properties of the scale.

First: Validity:

It is considered one of the important properties in establishing psychological scales. The valid scale is the one that fulfills the goals that it is established for properly, where it is able to achieve specific goals. There are different types of validly vary in their accuracy. The nature of the paper and its purpose define, in most cases, the type of acceptable validity and its degree. Therefore, the content validity and establishment validity of wisdom-based thinking are fulfilled.

Face Validity:

It is one of the significant landmarks in establishing psychological scales. The best tool to deduce face validity is to present the scale items on a group of specialists and

consult them on the extent of representing these items to the trait under investigation. This kind of validity is achieved for the scale of wisdom-based thinking through presenting it on some specialist in education and psychology. They agree on the validity of the scale items to measure what is put for.

Logical Validity:

It can be achieved through defining the dimensions of the scale and logical design of the items in which they cover important areas of each dimension. (Allen &Yen, 1979, p:96). This type of validity is fulfilled through accurate and clear definition of wisdom-based thinking and its areas. Also, it is verified that the items cover the scale areas and its dimensions. Then it is presented on some experts to consult their views on the compatibility of the items to the purpose that they prepared for.

Construct Validity: It is an analysis of the meaning of the test grades in the light of psychological concepts. According to some views, it is the most acceptable type of validity in the field of psychological measure. The most important indicators of validity are the statistical analysis of the items. This type of validity is fulfilled through:

- The discriminatory power of the items: It means the ability of the item to distinguish between the superior and the inferior groups of the individuals according to the property the items measures. (Shaw, 1967:450). Nunnaly refers to that the proportion of the sample number to the number of the items should be no less (1-5) so as to minimize the coincidence in the analysis. (Nunnly, 1978:p.262). Based on this, the researcher chooses a construct sample of (282) female/ male students by using Random Stratified Sample and Propositional Allocation. In order to ensure the best items and eliminate the inappropriate ones, items of wisdom-based thinking are analyzed according to the following:

1- Extreme Groups Method: To analyze the items by this method, the researcher follows the following:

A- Identify the total score for each application after correction.

B- Define the scores that the individuals of the sample earned starting from the highest score to the lowest, which is estimated (159,98).

C- The percentage (27%) is chosen as the highest and (27%) the lowest to represent the two extreme groups. Since the analysis sample includes (282) students, the number of applications of the superior sample are (76) application with a score (159.134) while the applications of the inferior are (76) with (120,98). In this

way, we will have the biggest and extreme difference where they similar to the natural distribution. (Anastasi, 1976, p.208).

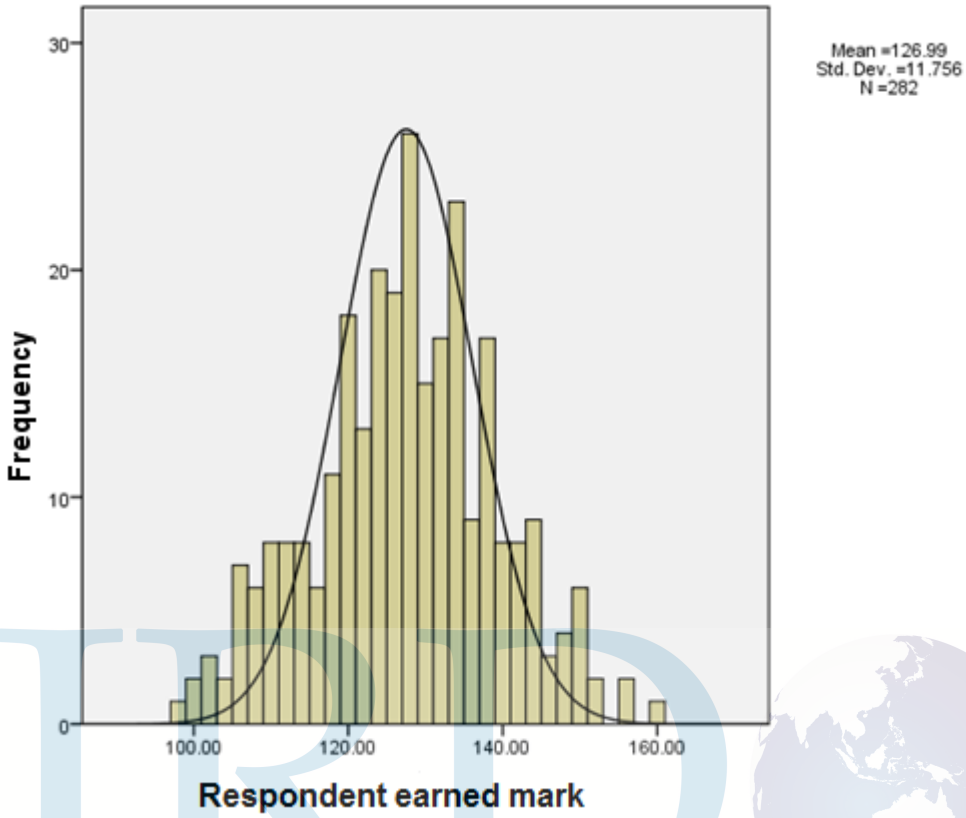

Figure No. (2)
Moderate distribution for the items of wisdom-based thinking

D- t-test for two Independent samples: In order to investigate the significance of differences between the superior group and the inferior one for each item, T-value is considered an indicator to distinguish each item through comparing it with the tabular value at the significance level (0.05) and freedom degree (150), which was (1.96). All items are distinguished as shown in table (6).

- The relation of the mark of the item with the total mark of the scale of wisdom-based thinking: It provides an accurate method, which can be accounted on to find the relation between individual's marks for each item with the total mark of the scale. (Oppenheim, 1997, p. 136). Correlation here refers to the level of how the item measures the concept, which is measured by the total mark of the scale. Each item follows the same course that the scale takes. (Rattay, 2007, p. 238). The relation of the item mark with total mark is calculated for the wisdom- based thinking scale through using Persons Correlation Coefficient, then the calculated

value of correlation is compared with the tabular value at the significance level (0,05) and (280) degree of freedom, which is (0.124), So all items are statistically significant, as shown in the table (4).

Table (4)

The correlation of the item with the total mark of the scale of wisdom-based thinking

No.	Item correlation with total mark	No.	Item correlation with total mark	No.	Item correlation with total mark	No.	Item correlation with total mark
1	0.154	10	0.135	19	0.228	28	0.478
2	0.388	11	0.163	20	0.447	29	0.342
3	0.261	12	0.405	21	0.436	30	0.542
4	0.303	13	0.411	22	0.31	31	0.22
5	0.148	14	0.405	23	0.395	32	0.504
6	0.221	15	0.538	24	0.164	33	0.397
7	0.394	16	0.198	25	0.355	34	0.27
8	0.246	17	0.417	26	0.28	35	0.427
9	0.237	18	0.255	27	0.529	36	0.207

The relation of the item mark with the area it belongs:

Table (5) shows this relationship

Table (5)

The relation of the item mark with the area it belongs

No.	Item correlation with self-knowledge	No.	Item correlation with altruism	No.	Item correlation with inspiration	No.	Item correlation with judgment issuance	No.	item correlation with life knowledge and its skills	No.	Item correlation with desire to learning
1	0.387	1	0.559	1	0.453	1	0.397	1	0.241	1	0.44
2	0.523	2	0.54	2	0.355	2	0.182	2	0.29	2	0.478
3	0.619	3	0.461	3	0.625	3	0.425	3	0.504	3	0.454
4	0.297	4	0.562	4	0.515	4	0.464	4	0.542	4	0.448
5	0.557	5	0.492	5	0.618	5	0.528	5	0.538	5	0.418
6	0.435	6	0.534	6	0.565	6	0.525	6	0.548	6	0.331

Reliability of Statistics:

It means the consistency of the scale in the information it provides us about individuals behaviors. It is calculated by two methods:

- Reliability by test and re-test:

The scale is applied on the sample of (50) male/ female students selected randomly then the scale is re-applied on them with two weeks after the first application. After clearing up data of the two applications, the researcher uses Persons Correlation Coefficient between the two applications, where its value is (0.83) and it is an acceptable value in the scales of the educational sciences. If the correlation coefficient between the first and the second application is (0.70) or more, it means that the indicator is good in the tests of the educational and psychological sciences.

- **Reliability by Cronbach's Alpha:**

It is one of the well-known equations, which are used in estimating reliability when the difference between the two halves are unequal. In order to calculate reliability by this method, the marks of (282) students are adopted and selected from the sample of analyzing items. Reliability coefficient was (0.758), which statistically significant reliability.

Statistical Indicators for the scale of wisdom- based thinking:

Table (6) shows the adopted statistical indicators to establish the scale of wisdom –based thinking with arithmetical mean (126.98), standard deviation (11.55) and hypothetical mean (108), where (156) is the highest mark the respondent can earn, which is considered the top of wisdom- based thinking while the lowest mark is (98) as shown in the following table:

Table (6) Statistical indicators for wisdom- based thinking

Statistical indexes	value
Mean	126.98
Standard deviation	11.55
No. of scale items	36
The highest mark the respondent can earned (the climax of wisdom- based thinking)	180
The lowest mark the respondent can earned	36
Hypothetical mean	108
Minimum mark earned	98
Maximum mark earned	156
Range	61
Skewness	-0.056
Kurtosis	-0.201

In this way, wisdom- based thinking scale of (36) items is ready for application:

Statistical tools for the scale of wisdom- based thinking:

- One sample T- test.
- Three way ANOVA.
- Cronbach's Alpha.
- Persons Correlation Coefficient.
- Kolmogorov Smirnov Test for nominal data.
- Two independent samples T-test.
- Schffe test.

Results and discussion:

The first goal: identifying wisdom- based thinking for the university students.

In order to verify the first goal and after applying the scale of wisdom- based thinking on a sample of (470) of university students, students' answers have been analyzed. The arithmetical mean of sample is (123.36) with standard deviation (11.6). While the hypothetical mean of the scale is (108). To know the significance of the difference between the two means, the researcher uses T-test for one sample. The T-value is (28.7), which is bigger than the tabular T-value (1.96) at the level of significance (0.05) and freedom degree (469) toward calculated mean. The result refers to that the university students enjoy wisdom- based thinking. Table (7) shows this idea.

Table (7)

The results of T-test to show the difference between the hypothetical mean and arithmetical mean for the marks of the sample on the scale of wisdom- based thinking

group	No.	Hypothetical mean	Arithmetical mean	Standard deviation	Calculated value	Tabular value	significance
University students	470	108	123.36	11.6	28.7	1.96	significant

The result can be explained in the sense that the students, despite the hardships they face, are able to face these conditions through using their wise thinking. This result agrees with the results of (Ghariba 2014) study, which shows the level of wisdom-based thinking for the university students was average. (Ghariba 2014)

The second goal: Identify the significance of differences in wisdom- based thinking for the university students according to sex (males- females), specialty (scientific-human) and the stage (second- fourth). To verify the goal, the researcher uses Three Way Anova for unweighted means. The results shown in table (8)

Table (8)

The results of Three way AOVA analysis for the significance of differences in wisdom- based thinking according to the variables of type, specialty and stage

Source	Type III Sum of Squares	df	Mean of squares	F Value		Sig.	significance
				calculated	tabular		
Sex	8.885	1	8.885	0.073	3.84	0.787	Not- significant
Speciality	287.484	1	287.484	2.369		0.124	Not- significant
Class	1802.28	1	1802.284	14.851		0	Significance
sex X specialty	8.307	1	8.307	0.068		0.794	Not- significant
Sex X class	625.11	1	625.11	5.151		0.024	Significance
Specialty X class	13.039	1	13.039	0.107		0.743	Not- significant
Specialty X class X sex	450.942	1	450.942	3.716		0.055	Not- significant
Error	56066.9	462	121.357				
Total	7215662	470					
Total or correlation	63150.5	469					

Through observing table (8) shows the following:

- Social type (males- females): though the calculated T-value is (0.073) less than the tabular value (3.84). It means that the differences according to the social type in wisdom-based thinking is not statistically significant. This results conforms with the results of (Abu Jado& et al.2014), which show that the differences are not statistically significant between sexes in wisdom –based thinking for the educational leaders in UNRWA schools in Jordan (Abu Jado & et al. 2014, p.216).
- Specialty (human- scientific): Since F- calculated value is (2.369) which is less than tabular F- value (3.84), it means that the difference in wisdom- based thinking according to specialty (human- scientific) is statistically significant. The researcher interprets the result in the sense that the specialty is not a difference in wisdom- based thinking between the scientific student and the humanity student, where the two specialties are university students and they are well- educated and from an important class of society.

- The stage (second- fourth): Since calculated F- value is (14.851) and bigger than Tabular F- value (3.84), it means the differences in wisdom based thinking according to the stage (second- fourth) is statistically significant. Through reviewing arithmetical means, it is clear that the fourth year arithmetical mean (124.29) is bigger than the second year arithmetical mean (122.16), which refers to the significance is in favor of the fourth year. The result can be explained in that the students of the fourth year reached to high level of mental maturity and the wisdom- based thinking is in continuous development. This view conforms with Al-Yassri 2011 study, which affirms the continuous development of wisdom.
- Interaction between the (type X specialty): the differences are not statistically significant.
- (Type X stage): Since the calculated F- value is (5.151) and bigger than tabular F- value (3.84), it means that the differences in wisdom –based thinking according to social type with stage is statistically significant. When comparing the mean of differences with Scheffe calculated critical value, it seems that the females have a higher proportion of wisdom- based thinking than the males. The males of the fourth stage have a higher proportion of wisdom- based thinking than females. Table (9) shows the results.

Table (9)

Scheffe value of the least morale difference of the arithmetical mean of the interaction between social kind (males- females) and the stage (second- fourth year) in wisdom- based thinking

		2nd f.	2nd m.	4th f.	4th m.	Scheffe
		118.8	122.31	127.28	124.51	
2nd f.	118.8	-	-3.52	-8.48	-5.71	
2nd m.	122.31	-	-	-4.96	-2.19	
4th f.	127.28	-	-	-	2.77	**5.53**
4th m.	124.51	-	-	-	-	

Figure (3) shown that.

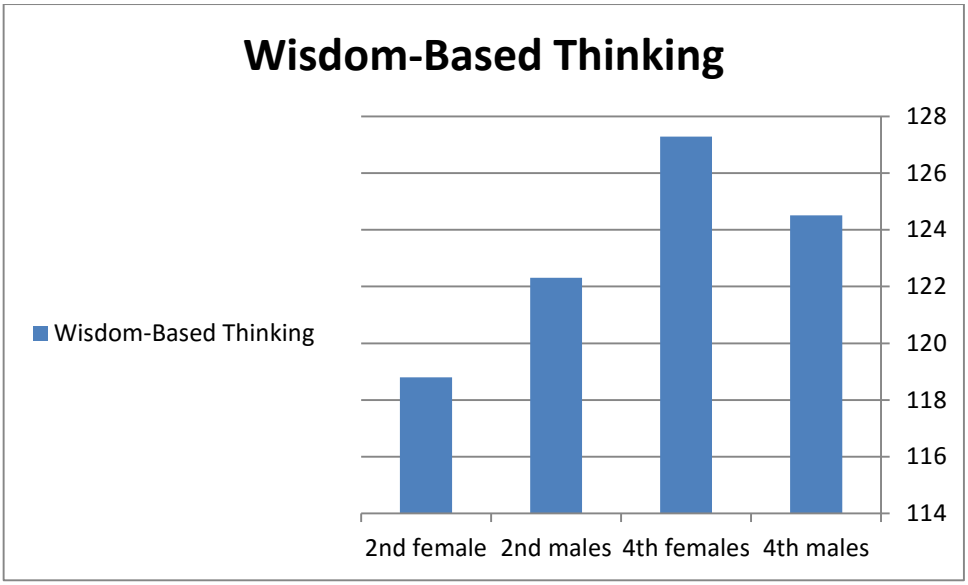

Figure (3) Wisdom-Based Thinking according interaction between social kind (males-females) and the stage (second- fourth year)

- Specialty X stage is not statistically significant
- Type X specialty X stage are not statistically significant

Conclusions

1- University students have wisdom – based thinking and this refers to the age period they pass through is characterized by wise thinking.

2- Wisdom- based thinking is influenced by the class, whenever the age stage is developed, the wisdom- based thinking developed.

3- Wisdom – based thinking is not influenced by the sex and specialty.

:Recommendation

1- Holding cultural and rehabilitation courses to develop and improve wisdom- based thinking for the university students.

2- Encourage the students to face their problems and difficulties that imped their way in order to solve them according to their wise thinking.

Propositions

1- Conducting more studies and researches to teach students wisdom- based thinking.

2- Conducting a study to follow up the development of wisdom- based thinking for different age stages.

References

- Abu Jado, S. M. & Nofal, M. B. & Mustafa, S. A. Y. (2014): Level of Wisdom-Based Thinking among the Educational Leaders at UNRWA Schools in Jordan, ***International Journal of Humanities and Social.***
- Allen, M. J. &Yen, W.M (1979): ***Introduction to Measurement Theory***, California, Book cole.
- Anastasi, A. (1976): ***Psychological Testing***, New York, Macmillan.
- Ardelt, M. (2004). Wisdom as expert knowledge system: A critical review of a contemporary operationalization of an ancient concept. ***Human Development***, (47), 257-285.
- Baltes, B. & Smith, J. (2008). The fascination of wisdom: Its nature, ontogeny, and function. *Perspectives on Psychological Science*, 3(1), 56-64.
- Baltes, P. & Smith, J. (1990). Toward psychology of wisdom: Its ontogenesis. In Sternberg, R, J. ***Wisdom: Its nature, origins and development***, Cambridge: Cambridge University Press, 37 – 120.
- Baltes, P. & Staudinger, U. (2000) Wisdom: A metaheuristic (pragmatic) to orchestrate mind and virtue toward excellence, ***American Psychologist***, January, 99, 1, 122-136.
- Baltes, P. & Staudinger, U. (2000) Wisdom: A metaheuristic (pragmatic) to orchestrate mind and virtue toward excellence, ***American Psychologist***, January, 99, 1, 122-136.
- Barreiro, Paula Lagares & Albandoz, Justo Puerto (2001): Population and sample. Sampling techniques, Management Mathematics for European Schools (MaMaEuSch), available on: http://www.mathematik.unikl.de/˜ mamaeusch.
- Bergsma, A. & Ardelt, M. (2012). Self-reported wisdom and happiness: An empirical investigation. ***Journal of Happiness Studies***, 13, 481-499.
- Birren J. E. & Svensson C. M. (2005). Wisdom in history. In: R. S. Sternberg, and J. Jordan, (Eds). *A* ***handbook of wisdom: Psychological perspectives***. New York: Cambridge University Press; 3-31.

- Brown, S. C., & Greene, J. A. (2006). The wisdom development scale: Translating the conceptual to concrete. *Journal of College Student Development*, 47, 1-19.
- Brugman, G. (2000). *Wisdom: Source of narrative coherence and eudaimonia*. Delft, the Netherlands: Vitgeverij Eberon.
- Clayton, V. P. & Birren, J. E. (1980). The development of wisdom across the life-span. A reexamination of an ancienttopic. In R. J. Sternberg and Jordan (Eds.), ***A handbook of Psychological perspectives*** (pp. 211-234). Cambridge, UK: Cambridge University Press.
- Conover, W. J.(1999),"***Practical Nonparametric Statistical*** ", 3rd edition, pp.428-433 (6.1), John Wiley & Sons, Inc. New York.
- Greene, J. and Brown, S. (2009): The Wisdom Development scale: Further Validity investigations, , ***INT'L. J. aging and human development***, Vol. 68(4) 289-320.
- Jeste, D. V., Ardelt, M., Blazer, d., Kraemer, H. C., Vaillant, G. & Meeks, T. W. (2010). Expert consensus on characteristics of wisdom: Adelphi method study. ***Gerontologist,*** 50 (5), 668-680.
- Kazdin, A. E. (2000). ***Encyclopedia of psychology***, Oxford: Oxford University Press.
- Knupfer, N. N. and McLellan, H. (1998): ***Descriptive Research Methodologies***, Kansas Stat University.
- Kramer, D. A. (2000). Wisdom as a classical source of human strengths: conceptualization and empirical inquiry. ***Journal of Social and Clinical Psychology***: Vol. 19, No. 1, 83-101.
- Kunzmann, U. (2004). Approaches to a good life: The emotional-motivational side to wisdom. In P. A. Linley & S.Joseph (Eds.), ***Positive psychology in practice***. (pp 504-517). Hoboken, NJ: Wiley.
- Labauvie, G. (1990). Wisdom as integrated thought: Historical and developmental perspective. In R. Sternberg, ***Wisdom: Its nature, origins and development***, Cambridge: Cambridge University Press, 13 – 52.
- Levenson, M. R., Jennings, P. A., Aldwin, C. M. & Shiraishi (2005). Self-transcendence: Conceptualization and measurement, ***International Journal of Aging & Human Development***, 60, 127-143.

- Meacham, J. A. (1990). The loss of wisdom. In R. Sternberg, *Wisdom: its nature, origins and development*. Cambridge: Cambridge University Press, 181 – 211.
- Oppenheim, A, N (1997**): *Research With Locus of Control Construct*** ,New York.
- Shaw, M.E.(1967): ***Scales for the measurement of Attitude***, Mc Graw , Hall, New York.
- Sternberg, R. (1990). ***Wisdom: Its nature, origins, and development***. New York: Cambridge University Press.
- Sternberg, R. (1998). A balance theory of wisdom. ***Review of General Psychology*** 2:347–65.
- Webster, J. D. (2007). Measuring the character strengths of wisdom. ***International Journal of Aging and Human Development***, 65-183.

Appendix (1)

The scale of Wisdom-Based Thinking:

Fields (levels):

First: Self- knowledge & emotional management: This field shows how the individual knows his points of weakness, strength, values intellectual beliefs and management of pressures actively.

No.	Items	Items direction
1	I have clear belief in my intellectual beliefs	+
2	I can realize the points of weakness and strength in my personality	+
3	I have interests and hobbies fit to my abilities	+
4	I change my satisfaction for the others	-
5	I find myself able to face pressures in my life	+
6	I think that the relation with others do not depend on emotions	_

Second: Altruism: this field describes the individual's ability to use his potentials to serve others and favours the public interest on his own, and how he changes his behavior if he hurts others.

No.	Items	Items direction
1	I agree with people who exploit the goodness of others	-
2	I think first to fulfill my personal interests before starting any work	-
3	I think that sacrifice of some benefits brings peoples' respect rather than exploiting them	+
4	I agree with the people who support others	+
5	It is hard to change what I used to, as depending on others' efforts	-
6	I'm ready to help others even if I don't know them.	

Third: Inspiration: It is the individual ability to influence on others and advise them so as to overcome any problem that faces them, and he makes of himself as an example to be followed by others show his trust in their abilities.

No.	Items	Items direction
1	It is necessary to interfere with others business even if they don't ask me so.	-
2	I take the initiative to clean the place so as others follow my lead	+
3	I advise others to overcome problems when needed	+
4	I help others for the sake of my personal interest	-
5	I encourage others to overcome their weakness and hesitation	+
6	I help people in need so as others take my lead	+

Fourth: Judgment: It is the individual's ability to understand life and reality of decision-making and taking through utilizing the multi- aspects of learning, and the tendency to make amicable relations.

No.	Items	Items direction
1	I depend in my judgment on what others tell me	-
2	I take decision based on my personal contentment rather than on the information	-
3	I depend on others stands with me in the time of distress as source of judgment	+
4	I avoid judging others when I'm iritated	+
5	I have the ability to make friendly relations with others when I meet them for the first time	+
6	I keep away from judging others	+

Fifth: Life knowledge and its skills: It describes the relations among people, materialistic and social world, searching on the meaning of life and accept it in all its miseries, and the ability to manage time and taking care of priorities to achieve goals, ethics and commitments.

No.	Items	Items direction
1	I keep away of vagueness that I face in my life	-
2	I see that I live life to fulfill goals I establish for myself	+
3	I accept my life with its problems and difficulties	+
4	I have the ability to organize time between my assignments and my personal rest	+
5	I miss the ability to regulate my appointment with others	-
6	The important thing is to finish my duties even if on the expense of others.	-

Sixth: Willingness to learn: It means the ability to identify the need so as to pursuit for knowledge and acquire experiences or learning from others.

No.	Items	Items direction

1	I listen to others' criticism even if I'm not convinced.	+
2	I have the desire to learn new vague things	+
3	I ignore uneducated individuals experience	-
4	I keep away from people who are not from my religious beliefs	-
5	I accept advice from others	+
6	I keep away from topics that are hard to learn	-