A Study and Comparison of the Personal Constructs of Management Among Novice and Veteran School Principals

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Abstract

Achieving the goals of educational systems and responding correctly to the expectations of students, parents and teachers depend on the existence of efficient and effective educational administrators and their beliefs. Therefore, the attention of education researchers is focused on the understanding of management in educational settings. Since individuals' beliefs cause the creation of personality structures, so the study of managers' personality structures can be helpful in selecting, transferring and relocating educational managers on a scientific basis, recognizing the necessary components of management to establish training courses, predicting future actions of managers and reducing skepticism and uncertainty and identifying the stylistic complexity of managers. On the other hand, structures enable educational administrators to better fulfill their professional mission. Based on the importance of this issue, the main purpose of the study was to identify and compare the personal structures of management among school principals. In the present study, in order to achieve the personal construct of managers, an interpretive approach and a qualitative method of case study were used. Participants included all public school principals in Sanandaj who were employed in 2021 and had more than one year of managerial experience. Therefore, sampling was done in a target based using the criterion method. Also, the number of samples was appropriate for the Repertory Grid Technique which is usually used for the sample with small number, 43 novice and experienced Principal were chosen. Data were collected using semi-structured interviews and a Repertory Grid Matrix. Finally, 575 personal construct were extracted during 43 interviews. Content analysis with the unit of subject was applied for the data analysis. The collected data of the personal construct of administrator were classified in 4 main categories and 13 sub-categories, which included issues as morality, relationship, personal features and intellectual-functional. The results of this study indicates that the highest percentage of personal constructs of novice and experienced managers is in the category of communication and the lowest percentage of personal structures for novice managers is in the category of intellectual-operational and also for experienced managers is in the category of ethics.

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Introduction

Realizing the goals of educational systems and responding to the expectations of students, parents, and teachers is dependent on effective and efficient educational managers. Therefore, education researchers' attention is focused on understanding managerial realities in educational settings. In recent years the tendency to study managers at the individual level has increased. Recent advances in the era of micro strategies have shifted the focus from studying managers to sampling large communities to studying managers individually and their activities in constructing specific management strategies (Bourne & Jenkins, 2005). The actions and behaviors of a manager are rooted in the patterns and ways in which he or she understands the world (Nias, 1989). To understand managers 'personal values and beliefs individually and how these managers' personal values and beliefs influence their subjective knowledge, skills, and management strategies, there is a need to use interpretive techniques in order to understand the unconventional meanings that Values for each person are being revealed (Bourne & Jenkins, 2005).

In addition, researchers often have problems, to interview senior executives, especially when searching for personal beliefs and sensitive topics. therefore, In qualitative research, it is necessary to develop tools to extract managers' individual values effectively. Given the challenges in educational management research, one of the avenues open to researchers in this regard is the theory of "personal Constructs" that emphasizes the way people perceive themselves and the environment And provides advantages for engaging in these types of research opportunities.

The theory of personal Construct is one of the original theories in the field of cognition introduced by George Kelly in the 1950s. It has since been adapted by numerous authors and has been further developed in the UK, Canada and Australia (Zuber-Skerritt & Roache, 2004). Kelly believed that people, like scientists, understand, organize, and interpret the world of their experiences by formulating hypotheses about the environment and testing them against the reality of everyday life.

It reflects, justifies, or interprets the unique experience and perception of individuals in events. In our view, we look at the world through transparent patterns that are consistent with the realities of the world (Kelly, 1995). "Construct" is the most basic structural concept of theory, which is how one looks at existing events and how one explains or interprets the world (Schultz & Schultz, 2011).

Kelly argued that if we were to get to know people, we first had to pay attention to their beliefs about the world, because beliefs formed the Construct. He regarded beliefs and perceptions as the best knowledge from within that only the individual himself or herself could provide a proper account of his or her view of the facts and events surrounding him or his (Fransella & Thomas, 1998). Theory of Personal Construct and how it works is clearly presented in the form of a fundamental principle and eleven subordinate principles. George Kelly developed a technique known as the "RGT" more commonly known as a (REP) To discover the construct by which one Interpretation and rendition important people in their lives.

Although the RGT technique was invented according to general personality theory, it should not be assumed that this method is merely coercive in its theoretical context. Some experts believe that this technique can be used without reference to George Kelly's personality theory (Fransella et al, 2004). For example, the principle of individuality in the theory of personal Construct emphasizes that individuals differ in their structure from events. Therefore, one person's mental structure is not likely to be useful to another. However, there is a great deal of research used to study groups of pre-prepared mental structures and the results of networks have

been analyzed throughout the group (Younesi, 2002). Studies carried out using a RGT have shown that personal constructs remain almost constant over time (Schultz & Schultz, 2011). But in a study examining the complexity of the individual's construct system, the results showed that the pattern of the individual's construct system became increasingly cohesive over a lifetime and could process more information if it could function more abstractly (Crackett, 1982). The natural consequence of Kelly's theory of personal constructs relates to cognitive styles. The research on cognitive styles is derived from the RGT and focuses on cognitive complexity.

Cognitive complexity is defined as the ability to differentiate in the process of applying personal constructs to others. Individuals with high cognitive complexity can recognize variation among individuals and be able to easily classify individuals into multiple classes. In Kelly's theory, Cognitive complexity is the more desirable and useful cognitive style (Schultz & Schultz, 2011).

Research shows that cognitive complexity increases with age, so that adults are generally more cognitive than children. However, age is not a complete justification for cognitive complexity. Many adults still have cognitive ease. The level of complexity of childhood experiences is very important. Adults with high cognitive complexity usually have more varied experiences in childhood (Sechrest, & Jacchson, 1961).

A survey of 40 couples also found that although women were significantly higher in cognitive complexity than men, there was a high correlation between cognitive complexity between men and women (Adams-Webber, 2001). Much research can be found that has utilized the RGT as a tool for psychological, clinical, educational, social and even political purposes and reported its results to be useful. For example, research in social relations (Duck, 1973), politics (Fransella & Banister, 1967) and children (Applebee, 1976) has been successful.

It has also helped planners who have adopted the construct system as a first step in recognizing the change process. It has been used, for example, in staff development and organization (Peters, 1994), in higher education research (Zuber-Skerritt, 1992) and curriculum development (Roche, 1999). The RGT has features that make it suitable for a wide range of entrepreneurship studies (Moosavi Bzargani, 2005).

The organizational usage of this technique encompasses operational areas such as staff selection and team development and research contexts such as: training evaluation and motivation at work (Brown & Detoy, 1988). Although some scholars have applied this approach in the field of management, despite its high potential it has not yet been widely used in management studies (Bourne & Jenkins, 2005). Studies in this regard include the following:

Moffat studied the individual's construct of high school teachers by using the RGT in decision-making practices and tested assumptions about teachers' involvement in school decision-making. The results led to the emergence of a model of participatory decision making that is applicable to educational planning and contains specific strategies for change (Moffat, 1982).

In a study aimed at finding new patterns for executives, Brown and Ditto examined the individual's construct of managers in large US corporations. The results of network analysis showed that the construct of novice managers are relatively high in the social interaction class, In contrast, the of construct veteran managers are in the domain of empowerment (Brown & Detoy, 1988).

Daniels, Chernatoni, and Johnson also used subjective patterns and semantics to understand the competing structures of managers, RGT, and balanced cards. The results showed that the RGT creates a deeper knowledge and understanding of catalogs compared to balanced cards (Daniels et al, 1995). Fairley's study of the effects of career development on leadership thinking and

performance was based on the theory of individual's constructs and with qualitative method. Participants' views of effective and ineffective leaders were collected using a

RGT. Its results include suggestions for early training, continuing education and decision-making practices (Fairley, 2002). Dockert, Jackson, Brenner, and Johnson used a RGT method and a questionnaire based on extracted construct to analyze employees' expectations and meanings of their firms in Sweden (Bourne & Jenkins, 2005). Bourne and Jenkins also used a method to extract managers' personal values (Dackert et al, 2003).

Using this approach, Ilia studied the concerns of members of an organization about changes in the core elements of the organization and acknowledged that the RGT facilitates a systematic evaluation of a social reality by emphasizing its construct nature (Illia, 2009). It is noteworthy that Farrell also studied the perception of principals with veteran Australian teachers about the nature of their work. The results showed that veteran teacher managers look at themselves and their performance in specific ways. This self-concept of educational managers may bring about large-scale change and innovation (Farrell, 2010).

In another attempt, in Switzerland, Koenig, Juri, and Kossel studied human resource staff perceptions of selection procedures using the RGT and interviewing method. They saw significant differences in employees' perceptions of selection procedures (König *et al*, 2011). In this context, it is again possible to study the perceptions of small business executives and business owners by Fasson, Rosemary and Bolens using the the RGT, which showed that the managers involved in the business ethics of information and The information was low (Fassin, 2011). According to what can be said, the theory of individual's construct can be used to study educational managers' understanding of management and leadership process and to infer their managerial beliefs.

This should be considered very important because the individual's construct of the managers reflect their future performance. Identifying construct enables training managers to perform their professional mission better. In this regard, attention can be paid to managers' individual's construct in different dimensions. Therefore, the specific objectives of the research include: to assist education practitioners in the selection, transfer and relocation of educational managers on a scientific basis, to identify the components of management needed to plan courses, to anticipate future actions; Managers and reducing the uncertainty and uncertainty and recognizing the complexity of managers' cognitive style. For the purpose of this study, this research sought to answer the following research questions.

1. What are the individual's construct of managemant veteran and novice school principals?

2. How is the cognitive complexity of veteran and novice school principals?

3. What are the differences in individual's construct of school principals' management based on their experience and gender?

Methodology

In doing this research, interpretive epistemological orientation has been adopted with the tradition of cognitive psychology, which is a qualitative research tradition. Qualitative traditions emphasize the inner experience of individuals in general, the inner experience of certain types of people, or the inner experience of individuals interacting with one another. One of the main features of qualitative research is its focus on the in-depth study of examples of a phenomenon in its natural environment and from the perspective of those involved in the phenomenon. For this reason, sometimes qualitative research is also called case research (Gal et al, 2005). From the interview and the RGT was also used as research tool.

Participants: Because case research is defined on the basis of researchers' interest in individual cases rather than the research methods used, so the study therefore emphasizes a particular unit of analysis that can be an organization, a city, a group of people, a patient, a school, an intervention, or even a province or government. The case is defined as natural events with definite boundaries and can also be a situation or an experience. The case study involved school principals in Tehran, captal of Iran who had at least one year of managerial experience in 2019. For a qualitative researcher in sampling, the question is who can be the rich source of information for my study? (Polit & Hungler, 2001). Therefore, in this study, purposeful sampling with maximum diversity was used, and individuals were invited to participate who veteran school management and had different experiences, perspectives, backgrounds and backgrounds. Although small sample sizes are usually used when applying the RGT (Danaeefard & Mortazavi, 2011), but due to the inexperience of the researcher in applying the cataloging network technique, more participants were invited to collaborate and a total of 43 participants were interviewed. The demographic characteristics of the participants are listed in Table 1.

Table 1. Specifications of participants by gender, background, and educational district

Educational district	School principals				Total
	Male		Female		
	Novice	Veteran	Novice	Veteran	
District 1	5	6	5	7	23
District 2	5	5	5	5	20
Total	10	11	10	12	43

Research tools: Interviews with the RGT were used to identify managers' construct. The particular application of this method is that one can understand phenomena as others make sense of them. This approach minimizes the potential bias and bias of the researcher to identify constructs that are relevant to a topic by the participants (Danaeefard & Mortazavi, 2011). The RGT is best run as semi-structured interviews (face to face, computer and telephone interviews) and is one of the methods used in the interpretive paradigm. On the extraction of human constructs, Kelly states: If you want to know how others think, why not ask them? They may tell you (Jankowicz, 2004). the RGT has four main components:

1. Subject: Whatever the around repertory grid it is called a network subject. That is, what the researcher intends to understand and what other people have in mind and express. (Danaeefard & Mortazavi, 2011).

2. Elements: Elements are examples or examples of a particular subject. In other words, they define the area and boundaries of the structure under study.

3. constructs: Distinguishes the mental structures and ways in which a person groups elements and thereby recognizes and evaluates himself and the world around him.

4. Connection mechanism: This component shows how each element in each construct is judged.

Procedure

In the present study, this technique was applied without regard to the theory of George Kelly's personal structure, and was implemented in the following steps using the Jankoiz (Jankowicz, 2004) guidelines. The the repertory grid is a matrix in which columns are assigned to elements and rows to construct. Within the cells of this matrix are quantitative or qualitative values indicating the degree to which the corresponding

element possesses the relevant properties (Moosavi Bzargani, 2005). The selection of elements is made by the people involved in the network interview and depends on the subject and the aspects that the interviewer inferred and evaluates. Elements can be extracted by asking questions such as: mother, father, employee, best friend, or focus on a particular area (Jankowicz, 2004). Three-element, two-element, and single-element methods are common to derive inferences, all of which contain questions about the similarities and differences between the elements already extracted. In this study, face-to-face interview and three-element method were used to extract the constructs:

1.   Agreement was reached with the interviewees on the subject of "management" and recorded on the network sheet.

2.   Interviewees agreed on a set of "elements" and wrote in the column. According to experts in group interviews, the elements for the participants should be the same (Brown & Detoy, 1988). In the present study, elements were selected from roles that were important in managers' workplace and personal life (Figure 1).

3.   Participants were explained that their perception of the elements would be obtained through the questioning.

4.   In the first row, the three elements were randomly selected by the interviewers and labeled in the cells of the network. The interviewee was asked which of the two elements of the three selected elements were similar in terms of some of the characteristics or behaviors and behaviors so as to place the third element in front of them.The features that the interviewee offers to distinguish between elements are called constructs. Since constructs are bipolar, they can be represented on a scale (Moosavi Bzargani, 2005).

5.   Interviewees were asked why two similar and third elements were opposed. The shared constructs of the two elements was written on the left side of the grid and inserted the opposite element in the same row on the right. It was ensured that the interviewee provided the correct inference to that construct and its opponent. Of course, the audience was given the freedom to choose the constructs.

6.   The interviewers were then guided to obtain subsequent row constructs. The extraction process continued as long as the interviewee did not have new constructs to present.

Figure 1. The sample work sheet of the (RGT) before completion

Negative pole	The best principal	The best another principal	The worst principal	Normal principal	Your beloved teacher	The person you are comfortable with She	Your best friend	Your father	Your mother	Your -self	Positive pole

Validity: in Dennett's view, it is not absolutely necessary to understand the (RGT) of theoretical assumptions behind it. However, there are some issues with the respondents' semantic extraction that, if left unnoticed by the researcher, may lead to shortcomings in conducting the research (Dainty, 1991). The (RGT) approach differs from other psychological methods in that it is, according to Thomas and Harry Augustine, formally structured but content-free (Thomas & Harri- Augstein, 1985). This provides the compatibility of the RGT with the researcher's subject matter. In this sense, the validity of the RGT is different from any other structure. But this diversity in network usage

raises questions about the validity of this method. In terms of structural theory, Kelly considers validity to be "useful in works". Therefore, many studies can be found that have used the RGT as a tool for their purposes (Younesi, 2002). the RGT can effectively detect patterns and relationships in certain types of data (Peterson, 2005). Dennett believes that there is no way to use this technique as a semantic distinction scale, and it can be a useful way of measuring subjective concepts and attitudes toward oneself and the world around us (Dainty, 1991). The validity of the RGT can be defined in its ability to accurately describe people's interpretations (Danaeefard & Mortazavi, 2011). In the present study, the researchers examined the accuracy of the constructs to obtain validity by re-constructing the constructs described by the interviewee (described in steps five and six, implementation of the RGT).

Reliability: The reliability of the RGT test depends on the skill of the psychologist or the researcher interpreting the results. However, at the forefront of the theory of individual's construct is the assumption that peoples construct are constantly changing. In general theory, humans are like scientists who are always searching for and matching their environment with their experiences (Kelly, 1995). As such, he strongly disagreed with the common notion of reliability when applied to the the RGT (Wright, 2008). In support of this view, they have emphasized that we should instead evaluate predictable changes and sustainability (Schultz & Schultz, 2011). In addition, Adams-Weber has argued that the credibility of the RGT should not be discussed because many forms of the network are composed of unique elements, constructs, and privileges, and hence the reliability of a particular network must be commented on (Adams-Webber, 2001). In the surveys of the two joint evaluations of the network studies, a high percentage of repetition of concepts and a high percentage of first differences were obtained; in other words, people's

interpretations of events are retained or changed. Hence, the process is reliable when the network is used in later opportunities (Wright, 2008). Other authors, such as Hans, Lenzdon, and Landfield, studied the reliability of this technique in different subjects and found that there was a high correlation between test and retesting networks in different studies and showed acceptable reliability based on the results of the subjects (Younesi, 2000). In the present study, to obtain reliability, the positions that were assigned to each category and unit were re-evaluated by other individuals. Eventually, units and categories were coded after agreeing on their position.

Data analysis

Content analysis is suggested for the analysis of constructs that are not well defined. This involves selecting a set of categories into which elements or constructs can be categorized and then assigning the constructs to a particular category (Danaeefard & Mortazavi, 2011). In the process of analysis, the categories are very important and the success of content analysis is to have the right categories and then the sub-categories. For the constructs provided by the participants, they were categorized by reviewing the constructs, sub-categories and then the main categories. So that each construct was compared to other constructs and if they were similar in content they were grouped together. But if the construct did not match the group, then it would create a new group itself. The categories have different types: thematic, constructive, value and style related. In this study, thematic categories have been considered.

Thus, to categorize the constructs provided were used by the integration of the two Landfield (Landfield, 1971) classification systems including components: social interaction, empowerment, organization, rational, moral, and personality traits and the Fixes, Goldchanger, and Niemeyer (Feixas *et al,* 2002) classification including ethical,

emotional, communicative, Personal, rational-operational and values and beliefs. For example, when the accountability-non-accountability bipolar construct was analyzed from the sum of the constructs, it was assigned to the organizational ethics unit in the category of ethics.

To avoid the bias of examiners, they might have expectations about what type of constructs titles will be found in networks based on the gender or level of experience of managers, and that these expectations are likely to be based on the way the constructs titles are coded. This was done to ensure that the demographic characteristics of the interviewees were not available when analyzing and coding the networks. From what was said, the researchers made sure when they were analyzing and coding that they didn't know who each sheet of the network belonged to. The full list of extracted dipole constructs is provided in the appendix. Table 2 also shows an example of the content analysis performed.

Table 2. Example of Content Analysis of Principals' personal construct of Management

Bipolar construct	sub-categorie	The main category
accountability-non-accountability	Organizational Ethics	Ethics
Communicating with others – not communicating with others	Public Communication	Communication
With plan- without paln	Organize	Personality attributes
Accurate – Inaccuracy	Individual empowerment	Rational-Operational

In Table 3 the four main categories under the heading: moral category with analytical code 1, Communication category with analytical code 2, Personality attributes category with analytical code 3 and Rational-Operational category with analytical code 4, show the final categories of content analysis.

Table 3. Coding the categories and units of Principals' personal construct of Management

Code	Categorie
1	Moral: Personal characteristics (1-1), Personal Ethics (1-2), Social Ethics (1-3), Organizational Ethics (1-4).
2	Communication: public relations (2-1), Working relationships (2-2), Guidance (2-3), Conformity (2-4).
3	Personality attributes: Values and Beliefs (3-1), Organize (3-2), decisiveness (3-3), Flexibility (3-4).
4	Rational- Operational: Personal ability (4-1), Scientific-educational ability (4-2).

As Table 4 shows, the number of constructs recruited by veteran principals, despite their lower number, is higher than the number of constructs acquired by novice principals, which indicates the cognitive complexity of veteran principals. Of course, since there are an almost unequal number of veteran and novice principals in the total participants, it does not necessarily create an equal number of constructs for each group. This means that comparing the total number of types of constructs between the two groups would be almost meaningless.

Table 5. Distribution of Principals' personal construct of Management by Gender

Categories	Male		Female		Total	
	F	%	F	%	F	%
Ethic	61	10.60	55	9.56	116	20.16
Communication	90	15.65	112	19.47	202	35.12
Personality attributes	66	11.47	69	12	135	23.47
Rational- Operational	71	12.34	51	8.86	122	21.21
Total	288	50.09	287	49.91	575	100

As Table 5 shows, the number of constructs in terms of ethical and rational-operational components of female principals is lower than that of male principals. This suggests that male principals use more constructs in management than the above components. But in terms of Communication, the number of female principals is much higher than that of men. This reflects the cognitive complexity of female principals in the field of managerial communication.

Conclusion

George Kelly's theory of individual's construct is based on the assumption that individuals are actively involved in understanding their world. They do so through a system of construct that perform a set of representations and a mental map of the world, and then review the experiences based on their results.

So the mental maps are not fixed and can be based on interaction Are influenced by the environment. The construct system turns to understanding, analyzing and interpreting and evaluating input data and then generalizations on how to respond. Studying principals' individual's construct is the knowledge of the world in which the princeple lives. A world that is very different from the material world. accordingly, the principal's meanings of the events and phenomena surrounding them are not based on what is actually true, but on the events, situations, people, relationships, and in general any phenomenon encountered. The meanings and terms he deduces are unique to him, and no other person resembles him. In a very real sense every individual or principal lives in their own world.

According to the results of the content analysis of individual's construct of school principals, it can be said that individual's construct of school principals are related to four major managerial categories: communication, ethics, Personality attributes and rational-operational. In examining the differences between veteran and novice principals, although not due to the qualitative nature of the test research and statistical significance, the raw data showed that more veteran principals place more emphasis on the relevant constructs. While less veteran principals have focused on constructs of the rational- operational domain.

In examining the difference between male and female principals, the raw data indicated that women in the field of communication had more construct than male principals, whereas male principals had more constructs in the ethical and rational-operational domains. The findings also indicated that veteran principals had more cognitive complexity than novice principals. The results of this study may in general indicate that current school principals in Sanandaj have more emphasis on social communication components and personality traits in the field of management And they consider these indicators to be effective as well as to achieve organizational goals and individual desires.

The organizational implications of these findings can be that recognizing and understanding the differences between the perceptual worlds of principals is important for understanding their behaviors and that

education authorities can be aware of these differences act on credible scientific evidence when making decisions to select and dismiss principals.

Ethical considerations

During the implementation of this research and the preparation of the article, all national laws and principles of professional ethics related to the subject of research, including the rights of statistical community, organizations and institutions, as well as authors and writers have been observed. Adherence to the principles of research ethics in the present study was observed and consent forms were consciously completed by all statistical community.

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Conflict of interest

According to the authors of the present article, there was no conflict of interest. This article has not been previously published in any journal, whether domestic or foreign, and has been sent to the School Administration Quarterly for review and publication only.

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References

Adams-Webber, J. R. (2001). Cognitive complexity and role relationships. Journal of Constructivist Psychology, 14 (1), 43-50.

Applebee, A. N. (1976). Developmental of children's to repertory grids, British Journal social and clinical Psychology, 15, 101-102

Bannister, D., & Mair, J. M. (1968). The Evaluation of Personal Constructs, Academic Press, London.

Bourne, H., & Jenkins, M. (2005). Eliciting managers' personal values: an adaptation of the laddering interview method. Organizational Research Methods, 8, 410-428.

Brown, C. A., & Detoy, C. J. (1988). A comparison of the personal constructs of management in new and veteran managers, American Sociological Review, 19, 68–76.

Crackett, W. H. (1982). The organization of construct systems: The organization corollary, In J. C. Mancuso & J.R. Adams-Webber (Eds). Theconstruing person. New York: Pager.

Dackert, I., Jackson, P. R., Brenner, S., & Johansson, C. R. (2003). Electing and analyzing employee's expectations of a manger. Human Relations. 56, 705-725.

Dainty, P. (1991). Meaningful management research using repertory grid: Problem and possibilities, in Smith, N., Dainty, P. (Eds), The Management Research Handbook, Rutledge, London.

Danaeefard, H., & Mortazavi, L. (2011). Understanding the way of sense making in organization: an analysis on philosophical foundation and conducting procedure of repertory gird methodology. Methodology of Social Sciences and Humanities Journal, 27, 51-66. [In Persian].

Daniels, K., Chernatony, L. D., & Johnson, G. (1995).Validating a method for mapping managers mental models of competitive industry structure. Human Relations, 48, 975- 991.

Duck, S. W. (1973). Similarity and perceived similarity of personal construct as influences on friendship choice. British Journal Social and Clinical Psychology, 12, 1-6.

Fairley, E. F. (2002).The effects of professional development on ministerial leaders thing and practice. (Unpublished PhD thesis). Faculty of Education, Griffith University.

Farrell, P. A. T. (2010). A conceptualization of the work of veteran teaching-principals.

Personal Construct Theory & Practice, 7, 16-26

Fassin, Y., Rossem, A.V., & Buelens, M. (2011). Small-business owner-managers perceptions of business ethics. Business Ethics, 98, 425-453.

Feixas, G., Geldschläger, H. Y., & Niemeyer, R. A. (2002). Content analysis of personal constructs. Journal of Constructivist Psychology, 15, 1-19.

Flick, U. (2006). An introduction to Qualitative Research (3th ed). Sage Publication.

Fransella, F., & Banister, D. (1967). A validation of repertory grid technique as a measure of political construing, Acta psychological, 26, 97-106.

Fransella, F., & Thomas, L. (1998). Experimenting with personal construct psychology. London: Rutledge & Kegan Paul.

Fransella, F., Bell, R., & Bannister, D. (2004). A manual for repertory grid technique (2th ed). John Wiley & Sons Ltd, Chichester, West Sussex, England.

Gall, M. D., Borg, W. R., & Gall, J. P. (2002). Educational research: An introduction (7th ed). White Plains, New York: Pearson/Allyn & Bacon.

Illia, L. (2009). Exploring how to diagnose members concerns about changes in core elements of organizations. Applied Behavioral Science. 45, 550-580.

Jankowicz, D. (2004). The easy guide to repertory grids. Chichester, West Sussex, England: Wiley

Jenkins, H. O. (1985). Job perceptions of senior managers in schools and manufacturing industry. Educational Management Administration Leadership, 13, 1-11.

Kelly, G. (1955). The psychology of personal constructs. V. 1 & 2, Norton, New NY.

König, C. J., Jori, E., & Knusel, P. (2011).The amazing diversity of thought: qualitative study on how human resource practitioners perceive selection procedures. Journal of Business & Psychology, 26(4), 437-450.

Landfield, A. W. (1971). Personal construct systems in psychotherapy. Chicago: Rand McNally

Moffat, K. P. (1982). Decision making in the secondary school: a case study of the constructs of the teacher using the repertory grid. University of Wollongong-Department of Education.

Moosavi Bzargani, S. J. (2005). Growth Center or Technology Park? Public or private? Technology growth, 3(9), 30-33. [In Persian]

Nias, J. (1989). Primary teachers talking a study of teaching at work. (1st ed). Routledge, London.

Peters, W. L. (1994). Repertory grid as a tool for training needs analysis. The Learning Organization, 1 (2), 23-28.

Peterson, S. E. (2005). A repertory Grid evaluation for a multidimensional theory of Courage. The University of Kansas, Available, at: www.proquest.com

Polit, Denise F., Beck, Cheryl Tatano, & Hungler, Bernadette P. (2001). Essentials of nursing research: methods, appraisal, and utilization. Study guide (5th ed). Philadelphia: Lippincott.

Roche, V. (1999). Self- managed organizational transformation: a case study of roles in higher education, unpublished PhD Thesis. Southern Cross University, Lismore.

Schultz, D., & Schultz, S. (2011). Theories of Personality. (translation by Seyed-Mohamma, Y.), Tehran. Virayesh Publication Institute. [In Persian]

Sechrest, L., & Jacchson, D. N. (1961). Social intelligence and accuracy of interpersonal predictions. Journal of Personality, 29, 169-182

Thomas, L., & Harri- Augstein, S. (1985). Self organized learning: foundations of a conversational science for psychology, Routledge & Kegan Paul.

Wright, R. (2008). Eliciting Cognitions of Strategizing Using Advanced Repertory Grids in a World Constructed and Reconstructed. Organizational Research Methods, 11 (4), 753-769.

Younesi, S. J. (2000). A simple technique in measuring of mental concepts among mental retarded children. Journal of New Psychotherapy, 19(20), 25-34. [In Persian]

Zuber-Skerritt, O. Z. (1992). Action research in higher education: Examples and reflections, Kogan PAGE, London.

Zuber-Skerritt, O. Z., & Roache, V. (2004). A constructivist model for evaluating postgraduate supervision: A case study. Quality Assurance in Education, 12, 82-93.

Appendix 1: List of Extracted Bipolar Constructs

Row	Positive Pole	Negative pole	Row	Positive Pole	Negative Pole
1	Interacting with others	Interacting with others	27	Love for others	Without love
2	Having the power of expression	Not having the power of expression	28	Experienced	Amateurs
3	Having a conscience	Not having a conscience	29	Married	Strict
4	Effective	Ineffective	30	Hard work	little effort
5	Successes	Unsuccessful	31	Interested in jobs	Disinterested in jobs
6	With the passing of the self	Selfishness	32	Interested in teamwork	Disinterested in teamwork
7	Grateful	Ungrateful	33	Like-minded	Love single-minded
8	Relationships	Regulatory	34	Counselor	Indifferent
9	Extroverted	Introverted	35	Able	Disable
10	Encouragement	Desperate	36	Self-critical	self-opinion
11	Be patient	Hasty	37	With will	Involuntary
12	Evaluator	Selfish	38	Intimate	Feelings
13	Grooming	Irregular	39	Support	Incompetent
14	Respect for others	Disrespect for others	40	Mutual understanding	Lack of mutual understanding
15	Calmly	Aggressive	41	Regularity	Irregular
16	Creator of a happy environment	Creator of a stressful environment	42	Exploiting individual abilities	Not exploiting individual abilities
17	Accepting others	not accepting others	43	emotion with	With unfeeling
18	Compassionate	Ruthless	44	Futuristic	
19	Responsible	Irresponsible	45	With purpose	With no purpose
20	Precautionary	Precautions	46	Modernists	Want stability
21	Believe	Disbelief	47	Powerful in decision-making	Instability in decision-making
22	Value Circuit	Non-commitment to values	48	Self-confidence	Lack of self-confidence
23	with skills	Unskilled	49	Pattern	Hateful
24	Good morals	Immoral	50	Lawful	Lawless
25	Others	Selfish	51	Flexibility	Inflexible
26	Humble	Proud	52	Responsible	Irresponsibility

Appendix 1: Continuation of The List of Extracted Bipolar Constructs

Row	Pole Positive	Negative Pole	Row	Positive Pole	Negative Pole
53	Affiliates	Independent	80	Liberal	Tyrants
54	Logic	Emotional	81	Predictable	Unpredictable
55	Social	Corner	82	self-sacrificing	Selfish
56	Responsible	Irresponsibility	83	Thinking	Without Thought
57	Colleagues	Non-cooperation	84	Conservatives	Explicit
58	Respect for the opinions of others	Regardless of the opinions of others	85	Realistic	Pessimism
59	Paying attention to human relationships	Not paying attention to human relationships	86	With legal force	With charisma
60	Specialists	Non-specialist	87	Experts	Incompetent
61	Modernism	Traditional	88	With study	With no study
62	Participatory	Non-participation	89	Empathy	Lack of empathy
63	Accurate	Surface	90	Generous	Stingy
64	Authority	Non-authority	91	Conscientious	Objector
65	Kind	Ruthless	92	Good behavior	Bad behavior
66	With program	Unplanned	93	Hot Blood	Cold Blood
67	Moderation	Extreme	94	Penetration	low penetration
68	Simple	Complex	95	Just	Oppressor
69	Good Promise	Bad Promise	96	Self-esteem	Has no self-esteem
70	Chronologists	Lack of Chronologists	97	Analysts	Surface
71	Optimistic	Pessimistic	98	Follow-up	No follow-up
72	Brave	Coward	99	Secrets	Revealing
73	with a halfway friend	Not accompanying	100	Personal relationship	Work relationship
74	Creativity	Lack of creativity	101	Sympathy	No sympathy
75	with morality	with immorality	102	Celebrities	Normal
76	Competitive	Non-competitive	103	Commitment	Non-Aligned
77	Guide	Misleading	104	with normal intelligence	Intelligence
78	Beneficiary	Seeker	105	Honest	Hypocrite
79	Traditional Thinking	Updated Thinking	106	Idealists	Ordinary

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