

An Empirical Test of a Postulate of a Mediating
Process between Mind Processes

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Running head: AN EMPIRICAL TEST

Abstract

The objective of the research was to verify a postulate of a theory of mind processes. The postulate stated that the mediating process of the mind processes comprises of diffusion, absorption, and assimilation through bursts of information. The data were obtained from videotaped sessions. The number of subjects was 78. Reliability of observation was assessed with the help of the coefficients of determination and alienation in comparison with the randomized variables. The proper analysis device was conditional probability. Patterns occurred that enabled to indicate that diffusion, absorption, and assimilation are real processes between other mind processes; such as the initial form, the mental shape, the mindy, and the configuration. Thus the postulate has a high probability of verification that makes it needless to patch the wholes of the preliminary theory, logically. The next phase is to find out the associations of the entire preliminary construction or the 8 processes with adult data.

Key words: diffusion, absorption, assimilation, conditional, biconditional, mind processes.

An Empirical Test of a Postulate of a Mediating
Process between Mind Processes

The objective of the research is to verify a postulate of a mediating process between mind processes. The postulate was a necessary one because of obtaining sensible reasoning for a preliminary theory of the mind processes (Laasonen, 1996, Unpublished). The postulate differentiates between two states of the mind processes, elasticity and plasticity. Elasticity by definition is resilient and plasticity irreversible into the former state.

Interaction between the mind processes is possible in the state of plasticity and storing of the mind processes occurs in the state of active rest or elasticity. Information exchange takes place between the mind processes through 1) bursts, 2) diffusion, 3) absorption, and 4) assimilation.

A burst is a quick way of mediating information between the processes. Diffusion means for example, activation of processes spreads out to other processes. Absorption purposes receiving information and not sending it between the processes.

Assimilation means; the processes have freedom to transform with each other in the state of plasticity, before moving into elasticity. Until now four

processes have proved to be fertile in dealing with the occurrences of the mind. The croupier process that comprises of separator, sorter, and collector of environmental information or form bound meanings. The croupier process is the control unit regulating other processes. The mental shape that characterizes as a vague process with its most prominent feature. The mindy(ies) that is an organized process. The configuration is a stabilized mindy with resistance to change. The configuration includes both experiential content and organization.

However, four processes are not enough because nothing produces anything. So in this research it was necessary to define an initial form as a hazy process. Thus mind constructs the initial form when information about an event is scarce or null in between the ears.

Functionally, the postulate states that interaction between the croupier process, the mental shape, the mindy, and the configuration takes place through diffusion, absorption, and assimilation where the bursts function as messages of meanings. Transformations between the processes occur in plastic states. Thereafter the processes transfer in the states of novel elasticity. Thus the focus of

the research is interaction of five processes: the croupier process, the initial form, the mental shape, the mindy, and the configuration.

Method

Data were obtained from a TV-program Clock Play. The number of subjects was 78 adults. The program is a contest where three persons try to answer the questions of the leader in preciseness of a century, a decade, a year. In the final lap, the winners can try to have four right answers that brings to the persons money. After the second lap, one of the competitors drops out. After the third lap the winners remain. Every right answer produces one score. The competitors use joystick to guide the cursor in 3 by 3 table where the time intervals localize in squares. I think, it is better to have data from professionals than, you know, to have one of those home-videos where nothing is stable. So the entire process dealing with encyclopedic information has four subprocesses and the number of the competitors lessens after second and third laps in the sequence of 78, 52, and 26 subjects.

To record the observations of the responses of the subjects an observation form was constructed. It included the competitors in the columns with right, wrong, guessing, and no answers as the responses.

The number of guesses was so small that its column of the data matrix was deleted. There were 'no answers', too. The right and wrong answers remained and they formed the basis of the frequency matrix that was used in the statistical analysis.

Two response categories were in use but four processes were under scrutiny. Thus interpolation and arrangement of the processes were necessary. The mind processes were arranged in descending order of content and organization; the configuration, the mindy, the mental shape, and the initial form. So there remained two points for interpolation. Interpolation was done in the following manner: the absolute difference between the right and wrong frequencies were calculated and divided by 2. The obtained value was added to the configuration frequency. The measure produced the mindy frequency for a subject. The same procedure was repeated with the mindy frequency that resulted in the mental shape frequency. Subtraction was used when the frequency of the right answers was greater than of the wrong answers. The measure guaranteed the scale to be in right direction. The total score of the entire process indicated the function of the croupier process.

The frequencies were added over the rows for

each subprocess. The values were converted into statistical probabilities. Thereafter, the conditional probabilities were calculated between the processes. Other processes functioned as the conditions for each other process. So all the combinations of the conditional probabilities included in the analysis.

Reliability of Observation

The frequencies of the right, wrong, and answers were added in each subprocess and the values were added over the rows. Thus the mind processes obtained the sum scores in four subprocesses.

To check randomness of observation the corresponding seeded randomized frequencies were calculated using the same ranges as with the empirical variables. After that, correlations were calculated with the randomized variables. The correlations proved to be: the configuration, 0,067; the mindy, 0,022; the mental shape, -0,002; and the initial form, -0.057.

The about zero correlations do not solve the problem of reliability because the correlations are with the randomized variables. That is why it was necessary to construct a coefficient of reliability of observation. The starting point of the construction

was the equation $r^2 + k^2 = 1$. The calculation of r^2 out produces the coefficient of determination and the calculation of k results in the coefficient of alienation. The quotient $1 - (k^2/r^2)$ indicates reliability because increase of 'common variance' decreases alienation that increases deviation from randomness. In this case other variables were the randomized ones. That is why the inverse quotient is to be used to assess the coefficients of reliability. The one before the quotient shows perfect reliability. Slight formalization gives the equation $r_{ii} = 1 - (r^2/k^2)$ for reliability in this case.

Results

The coefficients of reliability are verifiable in Table 1.

Insert Table 1 about here

One thing, at least, is perceivable from Table 1 that observation does not include randomness in considerable amounts, although subjectivity includes in observation.

Table 1

Coefficients of Reliability of Observation
Coefficient

Variable name	
Configuration	.99
Mindy	1.00
Mental shape	1.00
Initial form	.99

The calculation of the combinations of the conditional probabilities resulted in the values presented in Table 2 for the subprocesses.

Insert Table 2 about here

There is certain similarity between the first and third subprocesses. The same concerns the subprocesses 2 and 4.

Discussion

Time involves the net of the conditional probabilities. So the net indicates the pattern of functions between the processes in time order. In addition, the verification of diffusion, absorption, and assimilation needs rules of inference. In this case, diffusion verifies from the operators that occur in the net of the subprocesses. Absorption is verifiable from one-way implications. Assimilation verifies from two-way implications or sometimes called biconditions. The main operator is the mind that keeps going the processes.

In the first subprocess the mind produces the initial shape that diffuses its activity to the mental shape, the croupier process, the mindy, and

Table 2

Conditional Probabilities in Subprocesses

Subprocess 1					Subprocess 2				
cr	co	m	ms	if	cr	co	m	ms	if
cr				.26	cr	.29			
co					co	.29	.37	.39	.29
m					m				
ms				.27	ms				
if	.30	.29	.29	.31	if	.29			
Subprocess 3					Subprocess 4				
cr	co	m	ms	if	cr	co	m	ms	if
cr				.27	cr	.27			
co					co	.35	.34	.33	.34
m									
ms				.30					
if	.33	.31	.32	.34					

Note. Abbreviations of variable names mean: cr = croupier process; co = configuration; m = mindy; ms = mental shape; if = initial form. The conditions are in the rows.

the configuration. The subprocess differentiates between the active part and the passive one. The active part comprises of the processes of the initial form, the mental shape, and the croupier process. The passive part includes the mindy and the configuration.

The mindy and the configuration absorb the activity of the initial shape while the initial form ignites the mental shape and the croupier process to transfer into the plastic state.

In detail from Table 2, the initial form assimilates the mental shape and next it assimilates the croupier process. The mental shape transmutes the initial form and communicates the changes to the croupier process. Before that, the mental shape produces the transmuted initial form for further modification of the croupier process. The croupier process organizes content and form of the transformed initial form. Transmutation continues until the end of the first subprocess.

In the second subprocess in Table 2, the mind activates the configuration that spreads out its activity to the initial form, the mental shape, the mindy, and the croupier process. In the same way as before, the subprocess differentiates between the

active and passive part. The active part is in the state of plasticity. The passive elastic part comprises of the mindy and the mental shape. The configuration assimilates the initial shape and the croupier process, simultaneously. The configuration transmutes the initial form and the transmuted initial form assimilates the configuration. The croupier process modifies the transformed configuration at the same time with the assimilation of the initial form. The sequence continues to the end of the second section.

The third subprocess is a replication of the first one with the exception. The mind processes are somewhat quicker than in the first subprocess. The speed of the sequence is higher.

In the fourth subprocess the mind activates the configuration in the same way as in the second subprocess. On the contrary, the 4th subprocess is not a replication of the second one. The mindy and the mental shape again form the passive part of the subprocess. They are in the state of active rest. The activation of the configuration diffuses to the initial shape, the mindy, the mental shape, and the croupier process. The activation absorbs into the initial form, the mindy, and the mental shape.

Evidently, the construction of the initial form is not needful in the mind processes. In place thereof, the configuration assimilates the croupier process that transmutes the configuration until the end of the last section.

The entire process shows that diffusion, absorption, and assimilation are real mind processes. It is possible with them to explain the connections prevailing between other mind processes. So the postulate expressed in 'One Preliminary Theory of Mind Processes' (Laasonen, 1996, Unpublished) has a very high probability of verification. Furthermore, there is no need to patch the holes of the preliminary theory, logically. That what is needed is more empirical knowledge about the mind processes with the initial forms and other variables of the research. It is likely that the next task is to try to verify the entire construction done until now.

References

- Laasonen, R. J. (1996). One preliminary theory of mind processes. Unpublished manuscript.