استقلالية التفكير عند الطالب الجامعي وعلاقته بالقدرة على توقع النتائج الامتحانية

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ملخص : تهدف هذه الدراسة إلى الكشف عن العلاقة بين التفكير المستقل للطالب الجامعي وقدرته على توقع نتائجه الامتحانية قبيل عقد الاختبارات النهائية بفترة قصيرة.

اختار الباحث عينة عشوائية من طلابه الدارسين لمادة علم النفس التربوي بلغت مائة وسبعة عشر طالبا وطالبة (سبع وسبعون طالبة وأربعون طالبا)، حيث أخضعت هذه العينة لسلسلة من الاختبارات أهمها اختبار فالمر (Vollmer Test) الخاص بقياس الثقة بالنفس، وتم قياس قدرة العينة على توقع النتائج الامتحانية حيث تم سؤال أفراد العينة (قبيل تقدمهم للاختبار النهائي لمادة علم النفس التربوي) عن توقعاتهم للنتائج التي سيحصلون عليها في الاختبار باستخدام وحدة القياس المتدرجة ثم قام الباحث بمقارنة نتائج توقعاتهم بالمستوى المعرفي الذي ظهر في النتائج الفعلية للاختبار، واخضع جميع النتائج لطريقة "تحليل المسار" حيث كشفت الدراسة أن أفراد العينة الذين حصلوا على علامات مرتفعة في الامتحان النهائي لمادة علم النفس التربوي هم نفس الفئة من العينة التي توقعت الحصول على علامات مرتفعة في الامتحان، في حين كشفت الدراسة بأن من كانت توقعاتهم غير متوافقة مع علاماتهم في الامتحان كانوا من بين الطلاب الذين لم يبذلوا جهدا في الأعداد والتحضير للامتحان وهم أيضا من بين الذين سجلوا درجات أقل في مقياس القدرة على التوقع والتفكير المستقل.

وعليه فإن تعزيز القدرة التوقعية عند الطالب الجامعي يمكن أن يلعب دورا في تنمية الثقة بالنفس وتنمية التفكير المستقل، الأمر الذي من شأنه أن يسهم في تعزيز أداء الطالب الجامعي نحو تحقيق مستوى أكاديمي أفضل.

مجلة مركز البحوث التربوية بجامعة قطر العدد الرابع عشر السنة السابعة يوليو ١٩٩٨ ص ص ٤٧ - ٥٦

A Study Of Student's Independent Thinking As Manifested In Real Achievement Situation

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Abstract: The major aim of the paper is to examine to what extent expectancy as an expression of perceived ability is related to amount of independent thinking as manifested in the examination situation, and to what extent the latter is a determinant of grades.

A randomly selected sample of 117 students, 77 female and 40 male were asked one week before their examination of psychology to estimate as realistically as possible the grades (1.4-4.0) in fact they think they will get in the examination?.

This question and others were conducted to test the degree of expectancy within groups.

A self Confidence scale (Vollmer, 1986) was used to measure students' perceived ability. Grades on the Educational psychology examination range from 1.0 (best possible) to 4.0 For Correctional analysis the scale was reversed so that a high number meant good performance.

Path analysis showed that expectancy did have an indirect effect on grades through independent thinking, but this effect was not very strong.

The hypothesis that expectancy measured shortly before an examination is a realistic of pre-examination knowledge level, and that expectancy grade correlation may be accounted for by just assuming a relation between pre-examination knowledge levels found to have strong support.

The assumption that students with high expectancy get better grades than those with low expectancy, because the former persons have worked harder in preparing for the examination and therefore have learned more than the latter, also found support.

Introduction : In numerous academic researches empirical relationships have been reported between measures of expectancy and motivation (Nygard, 1977, Feather, 1982). The motivational effect of expectancy in real achievement situations like academic examinations, however, has not been

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explored. While many previous studies have reported significant correlation's between expectancy and grades on university examinations (Crandall, 1969, Keefer, 1969, Morrison et al. 1973, Hole and Newhouse, 1976, Holahan and Kelly, 1978; Koyenklioglu and Greenhaus, 1978).

In a previous study (Vollmer, 1984), expectancy measured shortly before an examination was found to correlate with a measure of persistence in the examination situation. The latter variable also correlated with grades, indicating that the relationship between expectancy and subsequent performance at least in part might be due to differences in effort expenditure between student high and low in expectancy. These results, however, were only obtained in a male group, and did not hold for women. Moreover, in a replication study (Vollmer, 1986) using a similar group of students and measuring instruments, failed to find any relationship between expectancy and effort expenditure in the examination situation, both for females and males.

An academic examination, however, at least the type requiring students to write essays, is a complex achievement situation. It consists in the performance of different types of activities, e.g., producing information, organising it into a structured whole, comparing various materials, critically analysing and discussing concepts, theories, experiments, making evaluations, etc. In achievement situations of this type it is therefore possible that expectancy may affect some specific aspects of behaviour rather than the overall and general quantity of expended effort. That is, while persons with high expectancy may not spend more total time on their examination papers, or produce a higher total amount of words, than persons with low expectancy, there may be differences between the two groups in amount of some specific type of activity.

What type of activity in an academic examination situation, then, may be related to expectancy? A clue to this problem may be obtained by examining what kind of variable expectancy is.

To attributions theories of motivation (Kukla, 1972; Meyer, 1973; Meyer and Hallermann, 1977; Weiner, 1980), expectancy is an expression of a stable personality dimension, namely perceived ability, and significant correlation's between expected grades on university examinations and measures of perceived ability have been reported by (Holahan, and Kelly, 1978) and (Motowidlo, 1981).

What kinds of activities in the examination situations are most likely to be influenced by people's expectancy as an expression of their perceived ability? The various activities a person should engage in when writing an examination paper can be sorted into two broad classes. One thing a person

obviously should do is demonstrating how much he or she knows. This is mainly done by reporting, as correctly and in as much detail as possible, viewpoints, theories, and facts contained in the curriculum. The other thing a person can do, in addition to describing facts, theories, and concepts, is to critically discuss and evaluate them. While the first kind of activity may seem rather safe, requiring only that the person knows, understands, and can report what others have said, the second type may seem more challenging, but also dangerous, in that persons have to do some thinking of their own, rely on their own judgements, assert their own viewpoints. It seems reasonable to assume, in turn, that persons who feel uncertain about their own ability (have low self-confidence) will be less willing to engage in such independent thinking than persons with high perceived ability.

Thus, the main aim of the paper, then, will be to examine to what extent expectancy, as an expression of perceived ability, is related to amount of independendent thinking manifested in examination situations, and to what extent the latter variable is a determinate of grades.

To (Vollmer, 1986) expectancy was also found to correlate with amount of work expended in preparing for an examination. The reason why student expect to do well if they have worked hard probably is that past work is believed to determine level of knowledge, and the latter variable to influence grades. In other words, expectancy measured shortly before an examination may be subjective estimate of pre-examination knowledge level.

This interpretation is not in conflict with finding that expectancy is also an expression of a more stable personality trait like perceived ability. For students who have worked equally hard in preparing for an examination may have different conceptions of how much they have learned and know. These differences, in turn, may be due to individual differences in perceived ability. Yet, this interpretation, however, suggests a way of understanding the relationship between expectancy and grades which does not necessarily imply any motivational links. If an important determinant of grades is the amount of factual knowledge shown in the examination paper, and this latter dimension depends on how much the student has learned and knows shortly before the examination, expectancy may relate to later grades simply because expectancy is a realistic estimate of actual pre-examination knowledge level.

According to this interpretation, all the expectancy performance relationship may indicate is that there is some kind of a relation between people's pre-examination knowledge levels (of which expectancy is an indicator) and the amount of information they are able to produce in the examination situation (of which grade is an indicator).

Hence, the hypothesis seems simple and highly reasonable compared to the theory that expectancy determines the amount of independent thinking people are willing to engage in, and thereby what grades they obtain. It would seem wise, consequently, to find out how much of the relationship between expectancy and grades can be accounted for by knowledge level. It can then be ascertained whether independent thinking has any independent effect on grades, in addition to the effect of knowledge level, and to what extent expectancy determines grades through the variable of independent thinking when knowledge level is controlled.

Method:

Subjects were 117 students, 77 female and 40 male taking an undergraduate Educational psychology examination at the University of UMM-AL-QURA. K.S.A.

Preparation work:

The sample was asked to indicate how many semester full time works they had spent in preparing for the examination. A seven-point scale was used ranging from "1/2 semester" to "more than 3 semester" Students were also asked: "How many hours per week on the average do you spend studying? This question may be difficult to answer because how much one works may vary from week to week. Try, however, to describe a typical week". As an overall estimate of how much work a person had invested in studying for the examination, number of hours per week was multiplied with numbers of semesters.

Perceived ability or self-confidence:

A self-confidence scale (Vollmer, 1986) was used to measure perceived ability. The test consists of seven items all assumed to relate to a person's perceived ability in connection with academic examinations. High scores indicate high perceived ability.

Degree of Expectancy:

Expectancy was evaluated by asking students one week before examination to "estimate as realistically as possible the grade (1-4-4-0) (for 1 represents 10 marks out of forty the total grades expected to be achieved by top students, whereas 2 represents 20 marks and so forth ....) you in fact think you will get on the examination". The scale was reversed for correctional analysis so that high numbers meant high expectancy. Hence, in

Comparing these high numbers with actual results in the exam the strong correlation means good performance and high level of knowledge.

Results:

Regarding Instrument Validity, (Ary, Jacobs and Razarieh, 1972) identified four types of validity namely; Content Validity, predictive validity, Concurrent validity, and constructive validity.

The content validity is regarded by scholars the most commonly used measure. In this study the content validity was assessed by giving the instruments to Colloquies in the field were items have been modified and the instruments were piloted and each item was judged for its presumed relevance of the property being measured.

Yet, adopting alpha coefficients of reliability for the seven-items self confidence scale, and the six indicators of knowledge and of independent thinking were 0.77, 0.87, and 0.85 respectively.

The two hypotheses as to how the expectancy-performance relationship can be explained were represented in a path diagram (Figure 1).

The assumptions that preparation work (x1) and perceived ability (x2) are determents of expectancy (y1), are represented by one-way paths from x1 and x2 to y1. As no hypotheses were formulated regarding causal relationships between work and perceived ability, x1 and x2 are connected by a bi-directional curved arrow. The hypothesis that expectancy, as an indicator of knowledge level right before the examination, determines amount of knowledge manifested in the examination situation (y2), and thereby grade (y4), is represented by the path from y1 to y2 to y4. The hypothesis that expectancy is determination of independent thinking in the examination situation (y3), and thereby of grade, is shown by the path from y1 to y3 to y4.

As to the relationship between knowledge and independent thinking, it could be argued that conceptually the two dimensions may be relatively independent. A person can produce much information in a paper and yet do very little in the way of discussing, and posing questions (i.e., independent thinking). and vice versa, a person can produce comparatively little information but still analyse and discuss problems extensively. As measured, however, several factors are in operation that can be expected to produce a correlation between the variables.

`Pairs of y2 and y3 estimates are produced by the same evaluator, at the time, using the same rating scale, data for the model were correlation's. Path coefficients were estimated by use of the maximum likelihood method

of LISREL modelling (Joreskog and Sorbom, 1981), and are shown in Figure 1.

The model's over-all fit to the data was quite good as shown by a small chi-square (10.04 df = 7, P = 0.187) and mean residual (0.035).

All path coefficients in the model, except the value for the bi-directional path between preparation work and perceived ability, were significant, as shown by t-testes. Knowledge and independent thinking manifested in the examination paper both contributed independently in determining grade, but knowledge was a much better predictor than independent thinking. The total effect of expectancy on grade through the knowledge and independent thinking variables was 0.413, leaving a residual variance of only 0.047, and indicating that the relationship between expectancy and grade could be adequately explained by the variables knowledge and independent thinking. The effect of expectancy on grades through knowledge (0.297) was, however, much stronger than the effect through independent thinking (0.11). Finally, preparation work and perceived ability were found to be independent determinate of expectancy.

The model was also tested separately for women and men. In both sex groups the fit between model and data was quite good. Chi-squares for women and men were 7.41 and 12.08 (both non-significant), and average residuals 0.032 and 0.059.

Discusion:

According to traditional theories of achievement motivation (e.g., Kukla, 1972; Meyer, 1973), being more or less motivated to act consists in the differential (moblization) of energy to perform the activity, or in expending more or less effort on the task, and is typically thought to be expressed in such measure of persistence as number of responses, or time spent on task performance. The central idea in the present paper was that on complex tasks like examination the motivational effect of expectancy might not primarily be one of driving people generally to expend more or less effort, but rather one of providing them with more or less courage to do some thinking of thier own. Such a connection seemed plausible in view of the assumption that expectancy is an expression of a person's perceived ability (or self-confidence). The data supported these assumptions in that significant relationships were found between perceived ability and expectancy, on the one-hand, and between expectancy and independent thinking on the other.

Yet, independent thinking was not found to be a very strong determinant of grade when knowledge was controlled. The explanation for this can probably be found in the high correlations between independent thinking and knowledge and between the latter variable and grade. With knowledge partialled out, the "independent" effect of independent thinking became small. The basic source of difficulty probably is that knowledge and independent thinking were not measured independently.

Global ratings of both dimensions were given on simple five-point scale by the same rater, probably under the common influence of a conception of overall grade. An important task for future research in this area is consequently to develop more objective ways of measuring independent thinking.

The assumption that students with high expectancy get better grades than with low expectancy, because the former persons have worked harder in preparing for the examination and therefore have learned more than the latter, also found support. Significant relationships were found between preparation work and expectancy, and between expectancy and knowledge level manifested in the examination situation. The latter variable, in turn, proved to be strongly related to grade.

However, it should also be pointed out, however, that the finding that expectancy predicts knowledge level as manifested in the examination situation, and thereby grades, might also be given a motivational interpretation. Having worked hard in preparing for an examination and objectively knowing much before the examination does not by itself lead to the production of a high amount of information in the examination. People who have worked equally hard and have the same level of knowledge, may not manage or be motivated to activate, use, and demonstrate their knowledge to equal degrees. Here it is conceivable that high expectancy (believing one knows a lot) is encouraging and enables people to be productive, whereas low expectancy is discouraging and hinders people in trying to produce knowledge. Though it is reasonable to assume that expectancy may have such a motivational effect on knowledge production, it is also important to stress that this effect must be limited. High expectancy cannot make people produce knowledge they do not have. Determining how much of the relationship between expectancy and amount of knowledge manifested in the examination situation may be due to motivational factors, is, however, beyond the scope of the present study.

In conclusion, the results of the present study support both the notion that expectancy may be an indicator of pre-examination knowledge level and therefore relate to grade and the hypothesis that expectancy may have

motivational consequences in the examination situation and thereby determine performance outcome. An important theoretical implication of the present results is that in complex achievement situation like examinations, the motivational consequence of expectancy may consist in doing more or less of certain types of activity like independent thinking, rather than in general effort expenditure.

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ورد البحث للمجلة في ١٩٩٦/٧/١٤ أعيد البحث بعد تعديله في ١٩٩٧/٧/٢ أجيز البحث للنشر في١٩٩٧/٧/١٣