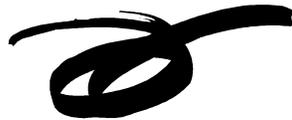


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Customized Job Enrichment and its Effect on Job Performance

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The effects of customized job enrichment vs. comprehensive job enrichment on job performance were studied on employees of a financial institution and a small section of a neighborhood population. Participants (n=38) were Human Resources staff in the financial institution and of mixed professional occupations in the other group. Using the Job Diagnostic Survey to measure job enrichment and performance ratings to measure job performance, the correlations between job enrichment and job performance were studied for those participants categorized in partially and fully enriched jobs. Participants in partially enriched jobs did not demonstrate higher job performance than participants in fully enriched jobs. New frameworks relating growth need strength to job characteristics and job performance are also discussed.

Job enrichment is a qualitative change to a job that increases the degree of autonomy, feedback, and significance of the job, enabling workers to have greater control and feedback in their work environment (Hackman & Oldham, 1976). This process provides a maximum amount of intrinsic satisfaction to workers (Landy, 1989).

Enrichment and Job Performance

Most enrichment programs have resulted in greater job satisfaction, but its effects on

performance have been mixed (Griffin, 1981). For example, Stone's (1986) review of enrichment studies showed highly inconsistent effects on performance. A comprehensive review several years later of 31 studies also showed the same lack of consistent effects on performance (Kelly, 1992). Recently, a major study didn't find linkage between job enrichment and organizational profitability and competitiveness (Lawler, Mohrman, Ledford, 1995).

In contrast, other studies have found positive correlations to performance. Herzberg's early studies certainly claimed dramatic productivity increases (Herzberg 1968 & 1969). Locke's review of 13 job enrichment studies also found that linkage (Locke, 1980). Finally, a meta-analysis of 200 studies concluded the job enrichment's potential effect on productivity can be meaningful (Fried, 1987).

There have been numerous explanations for these inconsistent findings. First, enriched work environments require new ways of looking at work relationships (Lawler, Hackman & Kaufman, 1973). The role of supervisor and subordinate changes dramatically; both parties must be able to embrace and adapt to the changes. Second, enriched jobs require that employees have access to greater quantity and quality of work information (Fein, 1971). Also, performance measures in many of the studies have been poor (Griffin, 1981). Finally, additional factors such as a job longevity (Katz, 1978), goal setting (Umstot, 1975), and social cues (Griffin, 1987) complicate the enrichment's effect on performance.

Hackman (1975) also proposed that basic procedural issues such as: union involvement, commitment from upper management, conflicts with non-enriched groups, and lack of employee participation in the design process have caused so much inconsistency in performance results.

This study will explore a specific form of job enrichment and its ability to improve job performance. It begins by analyzing classical job enrichment studies as a basis for developing a hypothesis that a variation of job enrichment which singularly enriches job characteristics would more consistently improve performance. The study and its limitations are described, followed by future directions for research and practice.

Key Enrichment Studies

Logically, it would seem that happier, more satisfied workers should be performing their jobs better. In actuality, this relationship was highly inconsistent. Several decades ago, Frederick Herzberg (Herzberg, 1968) claimed to discover the reason for this lack of consistency. He believed that job satisfaction improved performance, but that the concept of job satisfaction had to be defined more clearly in order to understand how it could impact performance. His Two Factor theory broke down factors causing job satisfaction and job dissatisfaction into two groups called "hygiene" and "motivators" (somewhat akin to Maslow's Deficiency and Growth needs (Maslow, 1943).) He posited that it was the hygiene factors (salary, working conditions, status, etc.) that cause job dissatisfaction, while only motivators (recognition, advancement, growth, etc.) can actually increase job satisfaction.

According to the theory, increasing the hygiene factors will not increase productivity, they will just diminish dissatisfaction. Only higher level "motivators" can increase satisfaction. Once job satisfaction is truly increased employees are more highly motivated and their performance improves. Herzberg held that since "hygiene" factors in the workplace such as salary or working conditions had previously been included in programs to increase satisfaction

and performance, they clouded the linkage between the two. Herzberg's early job enrichment studies that isolated "motivators" seemed to demonstrate successful performance improvements (Herzberg, 1968, 1969). As more enrichment programs were instituted however, results on performance became highly inconsistent (Stone, 1986).

Several landmark studies conducted by Herzberg (Herzberg, 1968, 1969) highlight the critical weaknesses and issues with job enrichment and account for the inconsistent relationship with performance. Before discussing the issues in detail and some possible solutions to them, I will summarize Herzberg's early study (Herzberg, 1968) and the follow-up study to it (Herzberg, 1969).

Herzberg studied groups of stockholder correspondents that undertook comprehensive job enrichment versus a control group that did not (Herzberg, 1968). There were also groups that were told that they would have changes implemented and that they would be studied. In actuality this was not true, and was only done to provide for another control group, one that would combat the Hawthorne Effect.

The specific types of work task changes that were implemented were: appointing team experts to assist with difficult questions that had always been sent to supervisors; having the correspondents sign their own names on the letters instead of their supervisors; lessening the frequency of proofreading that was done by supervisors on the group's work; encouraging workers to style the letters personally instead of adhering to a standard form letter; and holding each worker personally responsible for the quality of their letters. These interventions introduced important intrinsic motivators, or enrichers, such as accountability, autonomy, recognition, and learning opportunities to enrich these jobs.

Each of Herzberg's enrichers were introduced on a weekly basis. Over the first three months of the experiment, the enriched group actually worsened in comparison. After that period the enriched group outperformed their peers and expressed higher job satisfaction. Performance was gauged by an index that measured factors such as the quality of the correspondents letters, accuracy of information given, and timeliness of response to inquirers. The initial lag in performance for the enriched group was explained by adjustment factors necessary for the workers to get accustomed to their new responsibilities.

Herzberg suggested that specific criteria be met for enriching jobs. Cost for change must be acceptable; current work attitude should be poor; and motivators should make a significant impact on production. He also cautioned that supervisors will feel anxiety that their workers won't perform as well as previously, and feel hostility that part of their supervisory role is being taken away from them. The anxiety will lessen as workers display improved performance, and hostility will vanish as subordinates eliminate some redundant supervisory functions and supervisors can focus on higher level activities they didn't have enough time for previously. Some of those functions could be increased quality training of employees, or comprehensive evaluation of subordinates. Herzberg concluded by cautioning that these programs should meet the criteria outlined earlier, but the payoff for organizations can be significant.

There are several key problems with Herzberg's research that challenge his findings and are also critical problems for job enrichment studies that were implemented years afterwards. The following are some of the issues that challenge his study:

The measurement used in proving improved performance was vague. It displays a 0-100 scale and shows work performance increasing from 50 to 90 after six months. Does that mean

that performance in the key areas the scale measured doubled? That would seem to be a monumental achievement, and yet Herzberg does not emphasize it, leaving doubts as to whether that increase really reflects doubled output. Also, we don't know what happened after the six month period. That seems to be a critical question to the long term effectiveness of these types of programs.

Another issue would be the steady influx of all of these motivators right after each other. By the time they took effect three months later we don't know which of the motivators worked well and which didn't, and were simply absorbed by the effective motivators. Perhaps some of those interventions were even counterproductive, and diluted other extremely effective interventions. Also, the interventions could have been additive, clouding the true effectiveness of any single intervention.

The follow up study to this one (Paul, Robertson, Herzberg, 1969) took a comprehensive look at the Herzberg's Two Factor theory and experiment one year later. This study posed the following questions: "Could Herzberg's results be replicated in other companies and for different jobs?" "Was the simplicity of measurement in Herzberg's study, i.e. one type of job with many people doing it, essential to success?"; "Is it wise to attempt enrichment in situations whereby critical tasks are taken away from supervisors and there is high risk to the company?" "Do all employees want to be enriched?" "Are companies ready to pay higher salaries for the enriched jobs?" "Considering the difficulties in implementing this program, can the payoff be expected to make it worthwhile?" "Will enriching subordinates impoverish supervisors?"

They conducted the following several studies within a British chemical company, enriching a variety of jobs (Paul, Robertson, Herzberg, 1969). The studies will be briefly

summarized before commenting on how they answered the questions that they posed.

One study introduced changes to laboratory technicians that felt that they weren't being challenged sufficiently. Some changes were: signing off on research reports and taking responsibility for any questions on the reports; having more opportunities for work goal planning; getting time to follow up on their own ideas; and having the authority to requisition materials. These changes enriched the job by increasing responsibility, autonomy, and recognition for employees. The program was tested by judging the quality of reports completed by the experimental group. That group was found to score significantly higher than the control group for 16 months. The program clearly performed its goal of presenting greater challenges as well as realizing improved skills.

The next study examined a group of sales representatives that were satisfied with their jobs, but management wanted to increase sales in a competitive market. The enriched group had greater responsibility in determining calling frequencies, and were authorized to make settlements and buy back bad merchandise. Autonomy and challenge were increased for this group by making them less dependent on supervisors for decisions. The experimental group increased yearly sales by 19% versus -5% for the control group, although they did start their progress slowly.

The third study enriched a group of design engineers that were suffering from overload. Engineers were given more independence running their projects and had sole responsibility for selecting outside consultants. They became involved in the selection procedures for their staff and got increased financial decision making roles. The results of the study were that these engineers did not make poor judgements on the higher level decisions placed upon them both

technically and financially. Upper management saw significant gains from the program, and most importantly, the overload factor diminished as their job satisfaction scores rated 20% higher than the control group's.

The last study attempted to improve the supervisory role of factory foremen. An experimental group was authorized to change worker schedules, control budgets, and discipline workers. These changes were supposed to give the foremen greater opportunity for achievement and growth in their role as supervisors. The study showed that they showed increased ability to deal with subordinates as well handle disciplinary actions successfully. Also, their new opportunity for inputting solutions to technical problems resulted in savings of \$125,000.

The authors resolved their original questions in light of the results gathered from these studies as follows: Regarding the questions of whether Herzberg's results could be replicated in other environments with more complex jobs and measurements, the authors maintained that the success of enrichment in these varied studies demonstrated that Herzberg's results were transferable even in environments with a wide variety of jobs and more complex measurements.

To address the question of whether it is wise to attempt enrichment in situations whereby critical tasks are taken away from supervisors and there is high risk to the company, the authors stated that there may very well be instances that are too risky for enrichment but that the risks undertaken in their studies succeeded. They stated that the greater the risk, the more responsibility, accountability, and control is given over to the worker and the greater the chance for improved performance. In fact, they claimed that by the end of the study period, the new conditions were the norm and management had no more anxiety over them than they did over the old conditions prior to the study.

The questions of whether all employees want to be enriched, and if enriching subordinates impoverishes supervisors were resolved by the author's conclusions from these studies that reluctant workers favored the process once they began it, and that supervisors actually had more time to devote to higher level supervisory\managerial functions.

To address the question of whether companies are ready to pay higher salaries for the enriched jobs, the authors stated that these studies did not result in demands from the employees for higher pay. Herzberg classified pay as a "Hygiene" factor (Herzberg, 1968) and it does not have to affect the higher motivational needs. The authors state that enrichment can actually serve as a replacement for the inability to pay higher salaries, as workers can gain satisfaction from the work itself.

Finally, the question of the financial utility of enrichment was resolved, as the authors conservatively estimated an annual savings of several hundred thousand dollars generated by the experimental groups.

There are several issues that need to be addressed in these studies. First, financial utility is a key issue and the authors clearly stated that it was present. However, they did not specify which groups, if any, yielded the greatest proportionate gains and which gains may not have been very significant.

Another issue is that of employees who do not want to have their jobs enriched. The authors indicate that those employees can simply revert to the way they had always done their jobs and there is no loss. What if management doesn't want to leave that option open to them? It may be too complex to allow for the new and old approach simultaneously, not to mention jealousy or conflict between workers clinging to the old system and those in the new enriched

system.

Finally, the sample sizes and time factors are problematic. The samples in the studies usually ranged between 15 and 30 employees for the experimental groups- a fairly small number. Although promising in its results, what about the possible problems in establishing this type of program for thousands of workers in large companies? We don't know what the potential problems, if any, may be just from these studies. The time period for these studies was limited to approximately a year and half. Although hardly a brief period, the long term effects of these or similar interventions are also important.

These classical studies illustrated some of the critical issues that must be addressed in order for job enrichment to succeed. Following Herzberg's studies many enrichment programs were tested, but their effect on performance was inconsistent.

The Present Study

Understanding new approaches to enrichment requires an explanation of its specific components, namely the individual job characteristics that are enriched to increase overall intrinsic motivation. Proponents of enrichment have theorized that if more job characteristics are enriched, motivation is proportionately increased. The most widely accepted job enrichment model, Hackman & Oldham's Job Characteristics Model (Hackman & Oldham, 1976) is based on combining increases in five core job characteristics: Skill Variety, Task Identity, Task Significance, Autonomy, and Feedback.

Hackman & Oldham also developed an equation called a Motivating Potential Score (MPS) that computes the motivational potential of a job based on combining those five

characteristics. This makes sense intuitively. The more individual intrinsic motivators present, the higher the motivational potential of the job.

However, the present study is designed to demonstrate that enrichment may actually be more effective in increasing performance if these characteristics are not combined. This would, in effect, treat each intrinsic motivator as a separate entity. This approach to job enrichment is based on the following premises: 1) Clarity in variable manipulation and experimentation would seem to improve when all variables are isolated, preventing the confounding effects that each variable in an experiment may have on the other. 2) Some of the primary obstacles to successful enrichment may occur because all of these variables are introduced concurrently. 3) The additive nature of the MPS was not supported according to Evans & Kiggundu (1979). 4) Kulik, Hackman & Oldham (1987) recommend singular implementation of enrichers for employees low in Growth Need Strength.

Support for the approach underlying the present study can be found in the existing literature. Hackman & Lawler's (1971) early research broke down the differing job characteristics in a study that utilized all of them because "Very little is known about which aspects of the redesigned job are in fact responsible for observed behavioral and attitudinal changes." Their study as well as others (Fried, 1987) also indicated that some job characteristics are clearly more powerful than others in improving performance.

In addition, two of the greatest obstacles mentioned earlier to successful job enrichment were new subordinate-supervisor relationships and greater access to resources necessary for the enriched job duties (Fein, 1971). If only one intrinsic motivator (Task Feedback, for example) was introduced there would be no need to completely redefine an employee's relationship with

their supervisor, or to significantly increase their access to new resources to accomplish their job. These elements might not remain precisely the same, but the difficulties posed by major changes would not be present.

Kulik, Hackman & Oldham (1987) state that "Because a job can be high on one or more of the five characteristics describe above and simultaneously quite low on others, it is useful to consider the standing of a job on each of the characteristics." They recommend conducting an organizational diagnosis to identify the specific problematic characteristics and then implementing an intervention to improve them. They specifically advocate introducing motivators singularly in populations having low growth-needs. Similarly, Griffin, Welsh, & Moorhead (1981) suggest that performance factors be isolated and then tied to specific job characteristics that influence them most strongly.

The present study tests the impact of enriching individual job characteristics. This differs from the traditional comprehensive enrichment program that enriches all the classical job characteristics. The environments that were deemed to be partially enriched were those jobs that demonstrated significant levels of individual enriched job characteristics, but not multiple enriched job characteristics. For example, jobs showing significant opportunity for Task Feedback, but not for Autonomy or the other job characteristics, were considered partially enriched jobs.

Based on the premise mentioned earlier that enrichment should increase performance and that traditional enrichment programs often fail to produce that result since they simultaneously enrich multiple job characteristics, the following research hypothesis was tested:

Hypothesis: Employees with individually enriched job characteristics will demonstrate higher job performance than employees in jobs that have multiple job characteristics enriched.

Method

Setting

There were two primary sites for this study. One was the headquarters of a large financial institution in the Northeast, and the subjects were management and clerical employees in the institution's Human Resources department. Their job functions consisted of managing and supporting the institution's training, recruiting, employee relations, compensation, and benefits functions. There were 25 subjects participating in this study from this site. Subject's ages range from 22 to 62. There were 16 women and 9 men, 18 White and 7 African-American employees.

The other site was a residential suburban Northeastern location, and the subjects included 25 adults. There were 14 teachers, 5 attorneys, 4 accountants, and 2 computer programmers. Subject's ages ranged from 26 to 48 and there were 12 women and 13 men. All subjects were White. Subjects in both sites were conveniently located near the testers' home and in his workplace, and utilized only because of the limited resources available to conduct this study.

Procedure

All subjects were individually contacted by telephone and instructed to complete the Job Diagnostic Survey and a brief job performance questionnaire. These questionnaires are included in the Appendix. The purpose of the study was explained to them verbally, and written instructions on how to complete the questionnaire were attached to the cover of the survey.

Those instructions also detailed the protection of the subject's privacy and rights.

Subjects were asked to complete a 21 item questionnaire, based on the sections of the JDS that deal with measuring job characteristics. This part of the survey measured the extent to which job characteristics were enriched in their current jobs.

They were then asked to complete a two item questionnaire, used to measure their job performance. This questionnaire asked the subjects for their current job performance ratings. The first item asked for the most recent performance rating. In absence of such a rating, the second item asked for a self-appraisal performance rating. The performance appraisal scores were used to compare job performance to the degree of enrichment among job characteristics.

Measures

Job performance was measured by the subject's most recent performance rating score, or, lacking such a score, a self-evaluation performance score. The degree of enrichment in each of the job characteristics was measured by the Job Diagnostic Survey (J.D.S.) The JDS, the most famous measure of its type, has been found to be reliable and valid (Hackman & Oldham, 1975, Taber & Taylor, 1990). The JDS measures the following classical job characteristics: skill variety, interaction, task autonomy, task significance, task identity, and job & verbal feedback. The extent to which job characteristics have been enriched in the jobs sampled was determined by each subject's scores on the Job Diagnostic Survey.

Each subject's enrichment score was calculated through the JDS, which uses a scale of one (very low enrichment) through seven (very high enrichment). For purposes of this study, jobs that scored greater than 4.0 for the majority of the seven job characteristics were considered

to be fully enriched, while jobs that scored greater than 4.0 for only the minority of the seven job characteristics were considered to be partially enriched. From a sample total of 38, 31 subject's job were fully enriched, and 7 were partially enriched.

Job performance differences were compared through current performance appraisal scores throughout all the employees sampled. Although the validity and reliability of those performance appraisal scores is not proven, this was the only feasible job performance measure available for this study. Workers that do not receive a formal performance appraisal score were asked to give an objective self-rating of their current job performance. Self-ratings can obviously be biased, but they were the only available measure. As indicated in the Appendix, job performance was rated on a scale of one through seven. A rating of one represented job performance considerably below average, and a rating of seven represented job performance considerably above average.

Performance scores for employees that had high levels of enrichment on singular job characteristics were compared to those employees that had high levels of enrichment across many of the different job characteristics. If, as predicted, the scores of employees that had high levels of enrichment on singular job characteristics are higher than the other group's, the hypothesis can be supported that individually enriched job characteristics are more effective at increasing performance than enrichment of multiple job characteristics. This assumption is further explained below.

Results

The correlations among the job characteristic variables are reported in Table 1. Although the single highest correlation between variables was between Task Significance and Variety, there is no obvious link between these two seemingly unrelated characteristics.

Table 1
Correlations Among Variables

Variable	1	2	3	4	5	6	7
1. <i>VARIETY</i>							
2. <i>IDENTITY</i>	0.33						
3. <i>SIGNIFICANCE</i>	0.71	0.27					
4. <i>AUTONOMY</i>	0.44	0.39	0.55				
5. <i>FEEDBACK (JOB)</i>	0.38	0.56	0.42	0.25			
6. <i>FEEDBACK (PEOPLE)</i>	0.50	0.20	0.50	0.13	0.56		
7. <i>INTERACTION</i>	0.48	-0.09	0.36	0.26	-0.05	0.26	

Table 2 presents the summary results of this study. Each questionnaire was scored for its overall job enrichment score, the specific enrichment scores for each of the individual job characteristics, and for its job performance score.

Table 2

Summary Results of Performance & Enrichment Scores on Scale of 1-7

	WHOLE	PARTIALLY	FULLY
	SAMPLE	ENRICHED	ENRICHED
		SAMPLE	SAMPLE
Average Performance Score	5.90	4.90	6.10
Average Enrichment Score	5.10	3.60	5.40
Correlation of Enrichment Score to Performance	0.56	0.66	0.30

Individual Job Characteristic Correlation to Performance

<i>VARIETY</i>	0.48	-0.04	0.33
<i>IDENTITY</i>	0.29	0.80	-0.08
<i>SIGNIFICANCE</i>	0.35	-0.01	0.13
<i>AUTONOMY</i>	0.45	0.39	0.25
<i>FEEDBACK (JOB)</i>	0.46	0.85	0.05
<i>FEEDBACK (PEOPLE)</i>	0.34	0.83	0.10
<i>INTERACTION</i>	0.28	-0.68	0.38

If job performance scores were higher for the partially enriched group than for the fully enriched group the hypothesis would have been supported. While higher job performance scores might simply have been the result of individual differences among the subjects in terms of how much enrichment they needed to increase performance in their jobs, it was assumed that there was a random distribution of these individual differences of the subjects among both the fully and partially enriched groups.

For this correlational study calculations for the following correlations were necessary: overall correlations between enrichment and performance within the three groups mentioned above, and correlations for each of the individual job characteristics' relationship to job performance within these three groups. The correlations indicated in Table 2 showed at least moderate relationships between enrichment and job performance for all three groups.

Discussion

Various limitations to the study will be discussed below, followed by directions for future research. Sample and measurement issues were one of the factors that limited the effectiveness of this study. Of the 50 questionnaires distributed for this study, 38 were returned and utilized for this study. This is not a large overall sample size; and only seven subjects of the 38 held jobs that could be categorized as "partially enriched". The sample was also limited to a population that was easily accessible, due to the limited resources available in conducting the study. Table 3 details the overall enrichment and individual job characteristic enrichment results of those seven subjects as well as their performance scores.

Table 3

Partially Enriched Sample - Job Characteristic, Performance, and Overall Enrichment Scores on Scale of

1-7

Job Characteristics	Specific Enrichment Scores of 7 Partially Enriched						
	Jobs						
<i>VARIETY</i>	3.33	2.67	4.00	3.00	3.33	4.00	2.33
<i>IDENTITY</i>	4.33	2.67	1.00	3.33	5.67	2.33	2.33
<i>SIGNIFICANCE</i>	2.67	2.33	6.00	4.00	3.67	5.00	2.00
<i>AUTONOMY</i>	5.00	2.00	5.67	4.67	4.00	2.67	2.00
<i>FEEDBACK-JOB</i>	3.33	4.33	2.00	6.00	5.67	2.00	3.00
<i>FEEDBACK- PEOPLE</i>	3.00	2.00	3.00	4.67	3.67	2.67	2.67
<i>INTERACTION</i>	4.33	4.33	7.00	3.33	2.67	5.00	3.67
Performance Score	5.00	4.00	4.00	6.50	7.00	4.00	4.00
Overall Enrichment Score	3.71	2.90	4.10	4.14	4.10	3.38	2.57

Variable Contamination

Although the partially enriched jobs were clearly less enriched overall than the other jobs in the sample, it could not be said that the only certain job characteristics of the partially enriched jobs were exclusively enriched. This was due to the limited sample available for this study, which did not permit inclusion of subjects with jobs that only had some job characteristics enriched, with the other job characteristics fully absent of enrichment. The premise behind the hypothesis stated that without the contamination of some of the enriched job characteristics, other selected enriched characteristics could improve performance. Since there was still some degree of enrichment for several of the job characteristics besides those characteristics that

were deemed to be selectively enriched, the other characteristics with small amounts of enrichment could still have caused some degree of contamination on the selected fully enriched characteristics.

Sample Inconsistency

As Table 3 indicates, the types of characteristics in the "partially enriched" group that had high degrees of enrichment varied from subject to subject and sometimes included the characteristics of Autonomy and Feedback (verbal). These characteristics were the very types targeted as possibly causing performance decreases, since they could cause difficulties in the new supervisor-subordinate relationship and disrupt the flow of information required by higher Autonomy. The enriched characteristics hypothesized to increase performance were Task Identity, Task Significance, or Job Feedback, and these characteristics were only significantly enriched in some of these subjects. Also, as indicated in Table 2, these characteristics showed even weaker correlations to performance than the other characteristics. Because of the uneven distribution of professions and ages in the sample, it is possible that skewed concentrations of these specific populations caused these types of correlations. For example, the prevalence of teachers in the sample could explain why Autonomy did not decrease performance, since many teachers are highly autonomous and do not encounter difficulties in supervisor-subordinate relationships since their job's require less extensive supervisory interaction than many other jobs.

Variable Isolation

One of the advantages in the premise of the hypothesis was that enrichment variables could be isolated to determine which were most effective in improving performance. Even if other characteristics besides Task Identity, Task Significance, or Job Feedback had no enrichment at all and therefore didn't adversely affect them, there was still an intermingling of these three characteristics in the "partially enriched" group, making variable isolation impossible. Although Table 4 indicates the specific correlations to performance of each of these job characteristics, the characteristics were still enriched simultaneously, and their exclusive effect on performance cannot be predicted.

As mentioned previously, isolating the enrichment variables was critical to tailoring a customized enrichment plan. These plans were based on the ability to improve a specific characteristic that was weak, or to strengthen a specific characteristic that correlated to organizational effectiveness. Without real variable isolation, these plans wouldn't be possible.

Job Performance Measurement

Performance measurement was another important limitation to this study. Even the most sophisticated organizations have great difficulty in accurately measuring performance, especially in professional jobs (Glinow, 1989). An assigned performance rating does not necessarily indicate the actual productivity of the worker. This study used performance ratings assigned to individuals in many disparate organizations, further diluting that measure. Also, self-ratings were used in the absence of assigned ratings. It is difficult for individuals to objectively rate their performance.

On the 1-7 scale, the average performance score assigned to subjects by their employer was 6.1 with a standard deviation of 1.1, whereas the average self-rating was 5.9 with a standard deviation of .9. These averages and standard deviations show high ratings that have most of the ratings typically clustered within one point of the average score. The reason for these high ratings may be as follows:

The scales in the questionnaires designed to measure performance were set on a one through seven scale to correspond to the one through seven enrichment scales of the J.D.S. However, the questionnaire terminology describing levels of performance may have been too ambiguous. For example, the highest levels of performance (levels six and seven) were described as "moderately above average" and "considerably above average". Even if individuals did not think they were the very top performers in their organization they still may have thought that they were enough above average to warrant a score of moderately (or even considerably) above average.

Another reason the performance scores may have been so high was because, as indicated earlier, many of the subjects were teachers and don't receive the objective performance feedback that corporate employees usually get. It also explains why the overall enrichment score (5.9) was so high, in that teachers usually are very autonomous and perform work that is significant.

Correlations of Enrichment to Job Performance

The small sample size, especially for the "partially enriched" group made the correlation calculations less meaningful. For example, although the performance average for the fully enriched group (6.1) was higher than the partially enriched group's (4.9), since the fully enriched

group's average enrichment scores were so high (5.4) in comparison to the partially enriched group (3.6), a range restriction resulted whereby correlations of performance to enrichment were actually higher for the partially enriched group. This occurred because the typical scores for both enrichment and performance were both so high in the fully enriched group that the broad range of data that determines correlations between data sets was restricted, resulting in lower correlation than broader data sets would have yielded. It is interesting to note that the correlation of the partially enriched group was remarkably high, even higher than the fully enriched group, but insufficient sample size minimizes its significance.

Individual Differences

Another limitation of this study is the notion that individuals may differ in terms of how much enrichment they need in order to increase their job performance. Some people may need comprehensive enrichment to affect their performance while other may just require enrichment of a singular characteristic. If customized enrichment programs are instituted, individuals that require comprehensive enrichment would not see improvements in their performance. Also, since this was only a correlational study, the types of people that prefer certain types of enrichment were not specifically matched to the type of enrichment that may have been most effective for them.

This issue lends itself to a fuller exploration of individual differences in job enrichment and is directly connected to another hypothesis concerning enrichment and Growth Need Strength that could not be tested in this study. It will be discussed below, after directions for future research on customized enrichment are discussed.