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Teacher Job Satisfaction – A case study in technical training

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Abstract

The purpose of this study was to examine motivational potential and job satisfaction among teachers and instructors of a petrochemical technical training center in Doha/Qatar. To discern the relationships between job characteristics and psychological states and to compare results with other data, the Model of Hackman & Oldham is applied. Results show that the work environment is of highly motivating potential and job satisfaction shows a moderate agreement with short comings in security and pay satisfaction. The received scores are similar or outperform other samples. Findings give technical schools clear reasons for changes in human resources management. This study was part of the evaluation of impacts introducing the EFQM Business Excellence Model to technical education. It represents the first systematic work regarding teacher motivation and job satisfaction in Qatar and aims to help optimizing teaching resources.

1 Theoretical Framework

This study is the first regional work systematically applying Hackman and Oldham's Job Characteristic Model to examine the motivational potential and job satisfaction among teachers. Before describing theories of contextual, enriching factors of a workplace and elaborating factors of job satisfaction, it is considered crucial to determine factors impacting job satisfaction.

1.1 Studies on Job Satisfaction

Job satisfaction has been found to relate inversely to individuals' personality traits and social and demographic variables. Among them turnover intentions of individuals who experience relatively low job satisfaction tending to change their work positions (see Jesus/Conboy 2003). A possible explanation of why some individuals experience relatively high job satisfaction in a work environment while others experience relatively low job satisfaction in the same work environment is the difference in personality characteristics (Omundson/ Schroeder/Stevens 1996). In the same context, results of Schonfeld's (2001) study showed that support from non-work sources was directly related to future improved symptom levels and self-esteem. Supervisor and colleague support were directly related to future job satisfaction. Several studies have focused on teachers' job satisfaction and its psychological, social and cultural correlates. Examples of this research are the studies of Hammarberg/ Hagekull (2000), Lenox (2000) and Zigrang (2000). Hammarberg and Hagekull (2000) found that subjective conditions (e.g., job satisfaction, center quality, social recognition, satisfaction with education) were related to teachers' perceived control over child behavior, while

objective conditions (such as length of professional experience and the educational level) were not. Results of Lenox's and Zigrang's studies revealed a statistically significant positive relationship between principals' considerate leadership style perceived by teachers and teacher job satisfaction. Results suggest that there is a relationship between principals who lead with a considerate leadership style and teacher job satisfaction. In addition, the results of Lenox's study showed a significant correlation between organizational culture and general job satisfaction, intrinsic job satisfaction, and extrinsic job satisfaction.

1.2   Work Enrichment Theories

The study of how people react to changes in the workplace is called job enrichment. Jobs are considered enriched when there are context factors that impact a person's intrinsic motivators which are creating positive outcomes. To understand why job enrichment works and how it can be applied to an educational setting, the roots of its theoretical background are highlighted through introducing descriptions of Herzberg's Two-Factor Theory (1966) and Hackman and Oldham's Job Characteristics Model (1975).

First, the Two-Factor Theory developed by Frederic Herzberg (1966) describes the factors of a work that promote satisfaction and those that promote dissatisfaction (Herzberg 1966; Hackman/Oldham 1975; Frase 1989). According to Herzberg, it is neither the broadening of responsibilities nor toils known as work enlargement that leads to job satisfaction. Rather job enrichment that leads to important job content factors into the design of an appropriate framework. These factors are known as 'motivators' or 'satisfiers' and are intrinsic to the work itself. Examples of these include more recognition for one's efforts, more possibilities for achievement, more responsibility, more room for advancement, and increased personal growth. On the other side, the contextual factors that lead to dissatisfaction include such things that once they are presented can become dissatisfiers upon their removal. Examples can include lowered salaries, perceived negative change in working conditions, and less satisfying interpersonal relations. These are collectively known as 'hygiene' factors.

As a second theory, the Job Characteristics Model (JCM) developed by Hackman and Oldham (1975) has extended Herzberg's Theory. Whereas Herzberg advocated the creation of 'good' jobs, Hackman and Oldham built on that concept by attempting to refine our understanding of what a 'good job' looks like. In other words, what are the characteristics of motivating jobs? Further, they also suggested that different workers react differently to jobs. Their research led them to conclude that five key characteristics could be used to describe the motivating potential of a job. These characteristics are: skill variety, task identity, task significance, autonomy and feedback. Their research found that jobs scoring high in terms of a combination of these five characteristics resulted in higher job satisfaction and productivity than jobs scoring low. For a job to be intrinsically motivating, all five characteristics must be simultaneously present, to some extent. *Skill variety* describes the degree to which a job requires the exercise of several different skills, abilities, or talents. Such activities must not merely be different, but they must be distinct enough to require different skills. *Task identity* defines the extent to which a job requires completion of a whole and identifiable piece of

work. *Task significance* refers to the importance of the job; the degree to which the job has an impact on the lives of other people, the immediate organization or the external environment. *Autonomy* is the degree to which the jobholder is free to schedule the pace of his or her work and determine the procedures to be used. *Feedback* is the degree to which the individual doing a job obtains information about the effectiveness of the performance. Feedback does not only refer to supervisory feedback, but also the ability to observe the results of their work.

1.3 Motivation Potential Score (MPS)

Hackman and Oldham sought to 'measure' the motivating potential of jobs assessing the extent a job exhibits the five characteristics (1975, 160ff). A motivating job shows evidence of all five core job characteristics. The score calculated using this equation is only a crude indication of a job's motivational potential. Thus, two different people may produce a different score for the same job. The utility in this equation lies in its ability to pinpoint problems for a specific job. Then, having pinpointed the problem, the job can be 're-designed' to correct the shortcomings in one or more of the five critical components. The MPS score may turn out to be positive or zero. Jobs that produce a high motivating potential score are expected to lead to higher performance, satisfaction, low absenteeism, less staff turnover, and high intrinsic motivation.

1.4 Research Questions

The purpose of this study was to apply the Job Characteristic Model to the perceptions, classroom teachers and workshop instructors of a technical training center hold towards their jobs. The main two research questions can be described as follows:

1. How do the subjects feel about their … (a) core job characteristics as described in the model?, (b) critical psychological states as described in the model?, (c) personal and work outcomes focusing on satisfaction?, and (d) motivation as described in the model?

2. How do the mean scores compare to other similar studies?

2 Method

2.1 Participants

The participants consisted of 31 classroom teachers and workshop instructors of a technical secondary school in Qatar. Eighteen participants were classroom teachers while 13 were workshop instructors. In total, 26 (84%) of the subjects spoke Arabic and 5 (16%) subjects spoke English.

2.2 Materials and Procedure

Using the Job Diagnostic Survey (JDS), teachers and instructors were asked to rate the extent to which the five core job characteristics are present in their work. Ratings were then used to calculate the overall 'motivational potential'(MPS) of the work. The original instrument consists of approximately 80 items and involves the use of a 7-point rating scale for each item. Although all items of Section B were based on the original JDS, we had to contextualize the original instrument. To do so, the questionnaire was translated into Arabic based on a translation-retranslation analysis. This was to ensure that non-English speaking participants understand the questions. The questionnaire was then divided into two sections. Section A focused on demographic profiles while Section B focused on the perceived job characteristics, psychological states and work outcomes. To avoid a central tendency bias, a forced choice method was applied as a second change. To do this, the scale was reduced to a 6-point rating scale (1 = I strongly disagree, 6 = I strongly agree) for all items. The survey consisted of in total 46 questions and was given to all participants.

3 Results

Table 1 presents the minimum and maximum scores, means and standard deviations for each of the covered job dimensions.

Table 1:   **Means and Standard Deviations of Job Dimensions, Psychological States and Personal / Work Outcomes**

Job Dimensions	N	MIN	MAX	M	SD
Skill variety	30	1	6	4.75	.79
Task Identity	31	2	6	4.79	.70
Task Significance	30	1	6	5.25	.58
Autonomy	29	1	6	4.10	1.1
Feedback from Job	30	1	6	4.00	.78
Feedback from Agent	29	1	6	3.52	.99
Dealing with Others	31	1	6	4.40	1.00

3.1 Motivation Potential

As indicated in the table, mean scores for all but one (Feedback from Agent) are slightly higher than four, thus indicating moderate presence of the dimension. The degree in which the job impacts the lives of others (M=5.25) received the highest faculty agreement. There was also less variability in the responses for this item compared to the others as the smaller standard deviation suggests (SD=.58). This shows how important the teachers and instructors

estimate the impact of their work on the future career paths of the students towards a technical career rather than an ordinary post-secondary career. Scores on how the job involves doing a 'whole and identifiable' piece of work (*M*=4.79) and how the job requires utilization of various skills and talents (*M*=4.75) were also high. The linkage of classroom theory lessons and their practical application in the workshops give reasons to see a completion of a whole and identifiable piece of work for both, teachers and instructors. These combined assignments often require the exercise of several different skills and abilities which go beyond the normal scope of both groups. The degree to which the job requires them to work closely with others (*M*=4.40), provides freedom in determining how the work is done (*M*=4.10) and to which the job provides feedback (*M*=4.00) were still highly received. This reflects the fact that both groups had to schedule the pace of their work and determine the different content to be taught. In addition to the subject specific planning, teachers and instructors had to organize the coordination between their activities. The subjects were neutral or uncertain regarding the degree to which the organization provided sufficient feedback on the job, resulting in the lowest score (*M*= 3.52). For the dimensions with high variances, only the items covering 'Feedback from Agent' showed differences in the perceptions of teachers and instructors. While the means of both groups are similar (M_T=3.45; M_I=3.63), the variance of instructor scores was much smaller compared with the teachers' scores (SD_T=1.20; SD_I=.61). This could result from the fact that the instructors had full time consultants available who followed up daily duties and gave guidance and support in case of questions. That consultancy was also accessible for teachers but limited to technical subjects only. All other subjects were excluded.

In the sample, teachers attained a mean score of MPS_T=94.65 while instructors attained a mean score of MPS_I=82.93. These scores also remained stable when the scores of all professionals were aggregated on the school level (MPS_S=89.44) as shown in table 2.

Table 2:   **Motivating Potential Score (MPS) Results**

Group	N	Mean					MPS
		Skill Variety	Task Identity	Task Significance	Autonomy	Feedback from job	
School	31	4.75	5.03	5.61	3.58	4.87	89.44
Teacher	18	4.78	5.22	5.61	3.72	4.89	94.65
Instructor	13	4.71	4.91	5.62	3.38	4.83	82.93

The MPS is interpreted as a global measure for enabling forms of organizational formalization. At 89 points, the mean score attained by the professionals is relatively high. It corresponds to 44% of the maximum potential points. According to Hackman and Oldham (1980,), scores below 20% of the maximum should be taken as low because they strongly de-motivate staff. In the norm of Hackman & Oldham and a comparable study teachers scored

52% (Hackman/Oldham 1980) to 96% (Lawrence 2004) while employees in service professions scored as well 44%; police officers, 32% (Gaines/Jermier 1983); and bank employees, between 31% and 41% (Griffin 1991). Hence, the teachers and instructors in the present study attain equal or higher scores than of those measured in other professions. A reason for this difference might be related with the high expectations of teachers and instructors towards an independent school system.

3.2 Critical Psychological States

As indicated in table 1, the subjects exhibited the most regarding their perceptions that the job instilled a sense of responsibility for the results of one's work (M=5.54). The standard deviation (SD=.65) suggests that there was less variability in responses regarding this item than the other two psychological states. At the time the study was conducted, a national framework for technical education was in its developmental stage. So, teachers and instructors were highly responsible for the planning and assessment of the different technical programs to meet the expectations of all stakeholders.

There was a high variance in perceptions on the 'Knowledge of Work Results' which were basically replicated within both groups (M_T=4.94, SD_T=1.24; M_I=4.65, SD_I=1.14). Since this psychological state is highly related with frequent feedback on relevant information, the different perceptions could again stem from the fact that the instructors and the technical subjects' teachers were provided with a fulltime consultancy which offered feedback on results.

3.3 Affected Outcomes

As indicated in table 1, the means range between three and five suggest a moderate agreement or satisfaction response. The subjects responded most strongly to the degree they felt the work motivates them (M=5.27) with not much variance in their opinions (SD=.75). This result confirms the earlier findings on 'task significance' and 'task identity' which could be a major factor for motivation. The subjects felt dissatisfaction regarding pay (M=3.03) and job security (M=3.11). However standard deviations suggest a wider variability of responses which need to be further analysed. The analysis of both sub-groups shows that the means and variances remain basically the same within the groups for most items. But for the group of teachers, the subjects' perceptions are extremely divers when questioned about job security satisfaction (MT=3.02, SDT =1.98), pay satisfaction (MT=2.85, SDT=1.77) and supervision satisfaction (MT=4.46, SDT=1.75). Regarding job security, one reason for dissatisfaction and diversity could be the fact that there was a structural change in the way schools were organized. The training center being analysed was operated as an 'independent school' which were eligible to contract staff independently. So, the transition from public to private contracting could be a risk. Regarding pay satisfaction, again the change to an independent organization could have resulted in the expectation that there is more flexibility in contracting.

3.4 Comparisons to other studies and norms

The analysis of job dimensions for jobs including teaching and instruction were conducted in several studies. On the one hand, normative data is provided by a study of Hackman/Oldham/ Stepina (1979) involving almost seven thousand employees. In establishing the norm, the authors placed the teaching occupation in the group labelled 'professional job family (PRO)'. On the other hand, a study applying the Hackman/Oldham's Model on music teachers (Lawrence 2001) serves as a further comparison (CMS). Encountering the very small sample size of this study and the scale of the other US studies, the objective was to position this first data of the Gulf Region in the framework of US studies. For this positioning, SSIT scores were transformed to a 7-point rating scale (see Wimmer/Dominick 2005). Table 3 gives an overview of the means on job dimensions and the MPS of the studies.

Table 3: **Comparisons with other Studies and Norms**

JCM Dimensions/MPS	SSIT$_t$	PRO	CMS
Skill variety (SV)	5.54	5.4	4.59
Task Identity (TI)	5.58	5.0	4.42
Task Significance (TS)	6.12	5.6	4.31
Autonomy (AU)	4.78	5.4	4.71
Feedback from Job (FJ)	4.65	5.1	4.56
Feedback from Organization (FO)	4.11	4.2	3.96
Dealing with Others (DO)	5.13	5.8	5.25
MPS	131.85	154	96.16
Experienced Meaningfulness (EM)	6.19	5.40	3.90
Experienced Responsibility (ER)	6.46	5.80	5.05
Knowledge of Results (KWR)	5.61	5.00	4.17
General Job Satisfaction (GJS)	5.63	4.90	4.47
Internal Work Motivation (IWM)	6.15	5.80	5.23
Growth Satisfaction (GS)	5.63	5.10	5.88
Pay Satisfaction (PS)	3.53	4.40	3.77
Security Satisfaction (SES)	3.62	5.00	4.99
Coworkers Satisfaction (CS)	5.86	5.50	5.78
Supervision Satisfaction (SUS)	5.41	4.90	5.36
SSITt = transformed scores of SSIT sample			

In terms of MPS scores all three samples offer different scores. The sample of the Hackman/ Oldham/Stepina (1979) study (PRO) seems to outnumber the 'Music Teacher' sample (CMS), while the score of the educational staff of this study seems to score in between. To clarify the differences, a one-sample t-test was calculated. The t-tests show, that in terms of 'Task

Identity' (TI) and 'Task Significance' (TS) the differences across all the samples are highly significant ($p<.001$). For 'Skill Variance' (SV) the comparison with the CMS-sample shows highly significant differences ($p<.001$) while comparisons with the PRO sample for 'Autonomy' (AU) and 'Feedback from the job' (FJ) and 'Dealing with others' (DO) show significant differences ($p<0.05$). All other comparisons of the job dimensions turn out not to be significantly different ($p>0.05$). For the MPS-scores, the t-tests indicate a highly significant difference between our study and the CMS sample ($p=0.001$) and a significant difference to the PRO sample ($p<0.05$).

A comparison of psychological states shows, that there is a consistent difference between the samples across all scores of psychological states. While the teachers and instructors in our study always scored higher than the two other groups, the PRO sample achieves higher results than the music teacher sample (CMS). To clarify the significance of those differences, a one-sample t-test was carried out. The results show a significant difference between the present study and the PRO sample for the 'Knowledge of Work Results (KWR)' ($p<0.05$) and highly significant differences for all other comparisons ($p<.001$).

In contrast to the above comparisons, the personal/work outcomes of the different samples show an indifferent picture. On one side, one group shows similarities with another sample while on the other side there are huge differences between the same comparisons.

To sort out differences, a one-sample t-test was calculated. In terms of 'General Job Satisfaction (GJS, $p<.05$)', 'Internal Work Motivation (IWM, $p<.05$)' and 'Security Satisfaction' (SES, $p<.05$) the subjects of the present study differ significantly from those of the two other samples. With regard to 'Pay Satisfaction', the SSIT scores are significantly lower than the PRO sample ($p<.05$). All other comparisons are not significantly different ($p>.05$).

4 Discussion

Results for this study indicate in general that the JDS provides valid feedback on different job characteristics which reflect classroom practice as well as the organizational and work environment of a technical school. The results show that apart from a high potential for motivating personal there are job dimensions (like feedback from the organization) which reflect the different perceptions of classroom teachers and workshop instructors and give detailed reason for improvements. High MPS scores of the subjects describe a highly motivating environment, showing significant differences in comparison to other professions and replicating data of previous studies in education. The analysis of critical psychological states as well as affected outcomes delivers detailed feedback on strengths (e.g. experienced responsibility, internal work motivation) and areas for improvements (e.g. pay satisfaction and job security). Also, the results indicate that positive effects of initiatives were clearly reflected in the JDS (like providing feedback to workshop instructors). This potential can be used to evaluate the effects of approaches focusing on JDS dimensions (like training center development projects, EFQM improvement attempts or projects addressed to a sub cohort of a

school). Based on such detailed feedback, follow-up projects can be carried out more accurately which could in turn lead to higher effectiveness of the approaches. Next to single comparisons, a frequent use of the instrument (or sub-scales) can generate trends which could be further benchmarked with norms or results of other schools in the region.

For the school management, a high motivating potential score is important to monitor expecting high performance, satisfaction, as well as low absenteeism and staff turnover. To elaborate on teacher motivation and job satisfaction, the scale (or selected sub-scales) seems to fit to vocational learning arrangements and to be valid in terms of measuring differences of sub-groups in the school with reasonable economic effort. As shown in another application of Nordstrom/Williams/Jarvis (2003), it illustrates further potential to be applied in the classroom as a Class Diagnostic Survey (CDS).

The major limitation of this research study is, apart from the small sample size. Further research is needed to clarify such environmental effects and as such clearly limits some of the findings of this study.

Note: This paper is a shortened and updated version of the original published article of Hagmann, S./Anwari, M. A. (2013): Teacher Motivation & Job Satisfaction – A Qatar Case Study in Technical Education. In: International Journal of Vocational Education and Training 20, 2, 7-21.

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