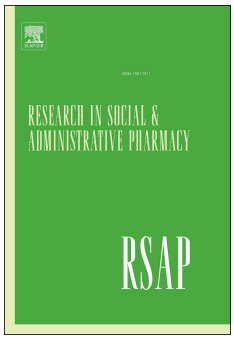

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Achieving Consensus Using a Modified Delphi Technique Embedded in Lewin's Change Management Model Designed to Improve Faculty Satisfaction

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Achieving Consensus Using a Modified Delphi Technique Embedded in Lewin's Change Management Model Designed to Improve Faculty Satisfaction in a Pharmacy School

Abstract

Background: Faculty job satisfaction (or dissatisfaction) is reported in the literature, and many surveys designed to measure satisfaction exist in higher education fields. However, measuring satisfaction does not inherently change satisfaction. Change must be agreed upon by faculty and administration if it is to be successful.

Objectives: The aim of this study is to describe a qualitative, iterative approach to drive consensus, promote change, and address pharmacy faculty job satisfaction using a modified Delphi Technique embedded in Lewin's Change Management Model, and to identify the top three faculty priorities to improve their job satisfaction as an exemplar of the approach.

Methods: Using the modified Delphi Technique embedded in Lewin's Change Management Model, faculty in a private pharmacy school were anonymously asked to respond to questions about priorities that would most improve their job satisfaction. Answers were divided into themes, and themes and responses were sent back to faculty to anonymously rank in order of importance. Two priorities for the College were established. However, a tie breaker necessitated a third round (modified from traditional Delphi) where faculty discussed and voted on the third priority.

Results: Survey response rates were 78% and 82.9% for Round One and Round Two. Round One responses (91) were divided into 13 themes for faculty to rank for Round Two. Round Three established the third faculty priority. Priorities for job satisfaction included workload evaluation, recruitment, and faculty development.

Conclusion: The Delphi Technique embedded into Lewin's Model of Change Management successfully guided administration toward new priorities at the College level directed at improving faculty job satisfaction.

Keywords: Delphi Technique; Lewin's Change Management Model; Job Satisfaction; Faculty Satisfaction

INTRODUCTION

Frederick Herzberg once stated that "True motivation comes from achievement, personal development, job satisfaction, and recognition". While administrative leaders cannot bestow motivation on faculty, they can help faculty by recognizing successes and providing an environment that promotes achievement, professional development and job satisfaction. Job satisfaction is often discussed in literature as a problem for university faculty, but literature on rectifying this issue is lacking. Finding positive ways to engage faculty and improve faculty satisfaction while determining and addressing areas of dissatisfaction at any institution can be a difficult task. No academic unit wants to admit if morale is faltering, but ignoring the issue(s) can be disastrous. Waiting too long to address an issue can cause distrust and negative feelings to become a part of the culture. A simple Internet search on faculty morale will show that numerous universities are struggling with low faculty morale.

Faculty job satisfaction is a crucial step that will make each faculty strive for their personal success, which in turn will contribute toward the overall success of the unit. Thus, determining the factors that improve job satisfaction of the faculty is significant. Reasons linked to job satisfaction in the literature are numerous.[1-6] Multi-institution studies across disciplines and universities by the COACHE (Collaborative On Academic Careers in Higher Education) collaborative based at Harvard indicates that job satisfaction is related to: department and department chair, feelings of fit and mentoring, health and retirement benefits, collegiality and collaboration, tenure and promotion, faculty demographics and much more.[1] With increasing use of part-time and non-tenure track faculty, increased work load and rising levels of bureaucracy, there is a trend towards lower faculty satisfaction.[1] Professors in doctoral and research universities tend to have lower job satisfaction.[1] Though this study was not focused on pharmacy faculty, the study had over 100 institutions in the US.[1] Desselle and Conklin in 2010, studied 885

pharmacy faculty across the United States and reported "slight satisfaction with their jobs".[7] Although a more recent publication partially contradicts this showing alternatively that work-life balance was the main area of dissatisfaction rather than job dissatisfaction.[8] Again, the reasons when combined for lack of satisfaction[7-8] are similar to the COACHE studies. Faculty satisfaction is quite an important feature for the best productivity in classrooms and in areas of research and scholarship. Though the COACHE studies provide exemplars of best practices at institutions where satisfaction is high,[1] the practices and outcomes can be unique for each institution. Thus, it is important for a specific university, college, or department to determine the drivers for faculty satisfaction for their particular institution, rather than simply implementing the techniques or cultures described in other studies, especially when there are signs of dissatisfaction among the faculty.

Faculty Satisfaction at Roseman

Faculty satisfaction as measured by the AACP Faculty Survey (a survey all US colleges of pharmacy must administer periodically and analyze to promote quality assurance at their institution) is administered and analyzed on a three-year cycle at Roseman University College of Pharmacy (RUCOP). In 2017, the survey was administered, and it was noted that survey responses to 14 questions (35% of the 40 questions) were less than benchmark. At Roseman, the benchmark is calculated by adding the columns of "strongly agree" and "agree" on the comparator AACP Faculty Survey (comparator would be other private not-for-profit colleges of pharmacy). Then, that number is compared to the RUCOP response to the same question by following the same procedure (adding the "strongly agree" and "agree" column together. The benchmark for RUCOP is defined as a value no less than 5% of the calculated score from the AACP comparator schools. For example, the question "the college/school uses programmatic

assessment data to improve the curriculum", the RUCOP calculated score was 78.4%, and the AACP comparator score was 76.1%. Since the RUCOP score is not less than 5% below the AACP comparator (in this case it is slightly higher than the comparator), it is considered within benchmark. If the score had been 71.1% or lower, then it would have been outside of benchmark.

Discussion at the assessment committee (AC) revealed that some of the responses were knowledge issues with faculty having ≤ five years of experience at the College. Thus, communication was needed to ensure new faculty were properly informed when they were on-boarded. However, that still left numerous survey questions that fell out of benchmark. Through administrative, AC and faculty discussions, it was determined that the survey question responses were likely related to faculty satisfaction in general.

With the aim of identifying the drivers of faculty satisfaction in pharmacy schools, a literature search revealed seven studies. First, an article published by Latif et al. in 2001 on the satisfaction of junior faculty in pharmacy academia.[9] This article had two areas of focus including assessing junior faculty's satisfaction with teaching, service, and research and identifying characteristics associated with satisfaction (such as gender, institution type, etc.). The article made suggestions on how to improve faculty satisfaction based on these findings.[9] The second publication in 2007 was the development of a scale to assess faculty work satisfaction in six domains, which was then followed by a third publication by the same authors Deselle and Conklin in 2010 on predictors of faculty work satisfaction.[7,10] The items and scale were developed from literature review and a modified Delphi Technique and include areas such as resources for scholarship, equitable and supportive climate, requirements for promotion and tenure, availability of a graduate program, collegiality, and teaching environment.[7,10] These

domains of satisfaction reflect some but not all of the items found in other disciplines. The fourth publication, Lindfelt et al. from 2015, used a 48-item survey to measure faculty work satisfaction and added to the pharmacy literature by bringing in lack of satisfaction with work-life balance.[8] This was followed up with a recent publication in 2018 to further elucidate how work-life balance affects retention of faculty in academia.[11] As with the other publications, satisfaction was measured in pharmacy faculty across the nation.[7-12]

Further, many scales exist in the literature to measure job satisfaction.[1,10] However, they do not engage the faculty in the process of change. Given the wide variety of potential affecters of job satisfaction and the importance of engagement of individuals in the process, a tool or method is needed that will engage faculty and the administration in the process of change which consists of steps to implementing change at an organizational level. Also for organizations, a quality assurance (QA) cycle using change management principles, of which numerous theories and books have been written, can further promote organizational change.[13-17] Successful change for any organization typically follows a QA pathway and must engage stakeholders in the process of change. Lewin's Change Management Model was decided upon to manage RUCOPs internal change processes. Discussion on the pros and cons of various models to direct change can be found in the discussion section.[17]

With limited resources and time, it is important to identify the top priorities for faculty so that appropriate targeted strategies can be introduced to improve faculty satisfaction and morale. The administration, AC and faculty felt that determining three strategic priorities to engage faculty in the process of change and to promote change management (QA efforts) using a modified Delphi Technique would be best to improve faculty satisfaction and focus change in areas of greatest consensus.

As a result, the AC with full administrative and faculty approval proactively facilitated a process to identify the top three faculty priorities in an effort to improve faculty satisfaction and promote change. Presented here is a qualitative, iterative approach using a modified Delphi Technique to (1) determine faculty priorities, (2) achieve consensus on issues to drive QA efforts to facilitate faculty satisfaction, and (3) uncover areas of "pride" that recognize achievement and promote faculty morale. Also included is an exemplar of this proactive methodology.

METHODS

The Roseman University of the Health Sciences Institutional Review Board reviewed and exempted this study. RUCOP has 42 full-time faculty members on two campuses with 13 basic and social scientists and 29 pharmacy practice faculty. There is one full professor, 19 associate professors, and 22 assistant professors. Faculty with greater than five-years of experience constitute 55% of the faculty, and the remaining have five or less. Though the faculty are named as basic science faculty and pharmacy practice faculty, there are no separate departments, and all the faculty are considered together for analysis purposes.

Lewin's Change Management Model (Figure 1) is used as the framework for implementing the QA process.[17] This process is simple for organizations to understand and utilize since it has three steps: unfreeze, change and refreeze, as explained in Figure 1. During the unfreeze portion of the model, information is gathered and agreed upon to promote organizational change. The Delphi Technique (in a modified form) was agreed upon by the AC as the tool to communicate, understand, and prioritize specific actions to improve faculty satisfaction. The Delphi technique is a method, where questions can be posed to a group of experts, to synthesize their feedback and reach a consensus. This is especially beneficial when there are conflicting experiences and has to incorporate multiple opinions. In this study, since the

faculty are the experts on their satisfaction, and there are multiple thoughts about the source of satisfaction or dissatisfaction, the AC identified Delphi technique as the best methodology to answer the question at hand. Table 1 outlines the process for the Delphi Technique defining the rounds (or phases) and approaches for gathering information and forming consensus.[16]

Prior to implementation of the modified Delphi Technique, faculty and administrative acceptance was sought. After administration concurred, discussion of the AACP faculty survey and the AC recommendation for implementation of the modified Delphi Technique occurred at a faculty meeting. Faculty were asked if they wanted to participate in the survey using the modified Delphi Technique to drive consensus on three strategic priorities to improve faculty satisfaction and to discover areas of current pride. When faculty indicated agreement on the process, Round One was begun.

Round 1: Initial Survey

The online survey software Qualtrics© was used to anonymously survey 41 faculty members in Round 1. The Dean of RUCOP was excluded from the survey since as the Dean, he will be responsible for identifying ways solutions to the three top priorities identified using the Delphi technique and has to be separated from the discussions in identifying these top priorities. However, since the structure of the school administration is in such a way that each administrator also has all the faculty responsibilities, the AC decided to include them in the surveys. Faculty were asked to give three priorities to improve faculty satisfaction and one source of pride using two open-ended questions. Faculty were asked “what are the three most important things the College of Pharmacy can do to improve faculty satisfaction?” and “What are you most proud of with regard to the College of Pharmacy?” Both question formats were open-ended to encourage faculty to think about what priorities they felt were needed to improve faculty satisfaction and

what they were most satisfied or proud of at RUCOP. The survey was open for 15 days, and two reminder emails were sent prior to closing the survey. After the survey closed, responses to the first question were analyzed using a qualitative analysis to arrive upon categorical themes. For example, if multiple faculty members stated that a raise was one of their priorities, then all of those responses would go into the "raise" category. One staff member and two administrators reviewed the faculty responses separately to determine the themes. Where there was disagreement, the administrators reviewed the themes together to reach agreement on a theme. While categorizing the answers to the question on priorities for improving faculty satisfaction, it was noted that some items were potential College priorities while other items the College did not control and would be better addressed at the University level. Thus, three lists were generated, one with the categorical themes of faculty priorities for RUCOP, one with the categorical themes of faculty priorities for the University, and one with the sources of pride.

Round Two: Survey on Thematic Analysis of Faculty Priorities

In Round Two, the second anonymous survey was sent to the same 41 faculty members using the same online survey software and remained open for 14 days. The themes with the faculty comments indicated below each theme were made available to the faculty to aid in ranking the themes. For the survey, rank order question format was utilized to gather responses from the faculty on RUCOP priorities and also on University priorities. Faculty were asked to rank the University list, which contained three categorical themes in order of priority or importance of that theme to their satisfaction with their position. Additionally, faculty were asked to rank the RUCOP list, which contained 10 categorical themes in order of priority or importance. An additional question was added to Round Two which included participants campus location (RUCOP has two campuses). This was added secondary to faculty discussion

that the campuses may have varying priorities. In order to be transparent, faculty comments were listed under each categorical theme and attached to the survey via an excel spreadsheet available for faculty to view online.

The rank order lists generated by the software were then downloaded. The software generated a pure rank order of each categorical theme (e.g. the RUCOP list has 10 rankings for priority number one, 10 rankings for priority number two, as so on). The quantity of faculty casting their vote for each priority (rankings) was automatically generated by the survey software in visual and numeric form. The number and percentage of faculty responding to the survey was also automatically generated by the survey software. Then, a list of the top three themes was generated from the rankings of the University list. The automatically generated list for RUCOP priorities showed the same theme for priority number one and two, which necessitated the identification of two more themes to arrive at the final list of top three priorities. The second priority was clearly evident from the automatically generated list. However, there was not a clear consensus on the third priority. It was decided that further analysis was needed to ensure that the top three categorical themes or faculty priorities were fully delineated by the survey and could be presented to the faculty for final decision. Thus, all the responses from priority number one through five were added to calculate which responses had the highest quantity of faculty votes. The software does not allow an individual to rank the same theme more than once, so responses are not double counted. At this stage, there was a clear priority number one and two, which matched the same priorities from the automatically generated list mentioned earlier in this paragraph. For priority number three, there was a tie between two different themes, and this was presented to faculty for discussion in Round Three.

Round Three: Faculty Meeting Discussion of Rankings

In Round Three, modified from a traditional Delphi method, the lists containing all the items and their rankings including percentage response and quantity of faculty votes (data given in visual and in numeric form) for University and RUCOP priorities was emailed to faculty for discussion at the next faculty meeting. This round gives faculty the opportunity to make further clarifications on priorities if needed before arriving at final consensus. This is modified from a traditional Delphi where this round would be anonymous. To promote full faculty discussion on the priorities, an open forum was chosen, and data (raw and calculated) was sent to faculty in advance. This included all data from the University priorities, RUCOP priorities, and all the sources of pride. Faculty discussion on the tie-breaker included reviewing the numbers of votes and reviewing how those votes varied based on campus location. Through faculty discussion, the tie breaker was eliminated and the top three priorities for RUCOP were chosen. Faculty also discussed the University priority list and the sources of pride. The top three categorical themes (including all faculty comments on those themes) for RUCOP and the University were sent to the Dean of the College of Pharmacy.

RESULTS

Thirty-two faculty (32/41 or 78.0%) logged into Qualtrics© to answer the two open-ended questions in Round One. Thirty-four faculty (34/41 or 82.9%) logged into Qualtrics© to rank the XXCOP priorities and University priorities in Round Two. However, one of the 34 faculty responding in Round Two declined to answer any of the questions, and one faculty partially answered the survey. To keep the process anonymous, no demographic information was requested on the surveys from the respondents.

The first question of Round One (what are the three most important things the College of Pharmacy can do to improve faculty satisfaction?) revealed 91 priorities. These priorities were

separated into categorical themes as shown in Table 2. These themes were further separated into two sections, faculty priorities for RUCOP and for the University. RUCOP priorities included faculty/staff recruitment, professional development, faculty governance, curriculum, policy changes, admissions, transparency in decision making, workload/responsibilities, administration and miscellaneous. University priorities included salary, benefits, and monetary resources for faculty development. Question two of Round One (what are you most proud of?) elicited 31 sources of pride for RUCOP. Rather than categorize each source of pride, it was felt that each comment should stand alone. A condensed version of sources of pride included items like, comradery and collaboration between faculty, ability to freely share opinions, pride in students/student performance, accreditation successes, macro-management styles, and unique teaching pedagogy.

In Round Two, faculty responded to one bimodal question (campus location) and to two ranking questions (University and RUCOP priorities). Sixteen faculty from Campus 1 (16/20 or 80.0 % response rate) and seventeen faculty from Campus 2 (17/21 or 81.0% response rate) indicated their campus. Thirty-three faculty (33/41 or 80.5%) ranked their top three priorities from the RUCOP list, and thirty-two (32/41 or 78.0%) ranked their priorities from the University list. The top three priorities for the University are shown in Figure 2. As indicated in the methods section, arrival upon the three RUCOP priorities was more complicated. Figure 3 shows the top five RUCOP priorities (5/10 priorities from the categorical list in Table 2). Priority numbers one and two are the same: workload. Priority number three is recruitment. Further analysis of the five priorities showed workload and recruitment as the top two priorities and indicated a tie for priority three, faculty governance and faculty development. Figure 3 was presented to faculty for discussion in Round Three.

Round Three generated two final lists of the top three faculty priorities, one for the University and one for the College. Faculty discussion on RUCOP priorities centered on achieving consensus for the third priority, since there was a tie between faculty development and faculty governance (each with 22 faculty votes, Figure 3). While faculty development affirmative votes were split between the two campuses, faculty governance was almost entirely a Campus 2 priority. However, after discussion both campuses agreed to faculty development as the third priority. After Round Three, faculty set the top three priorities for RUCOP in the following order: workload, recruitment, and professional development (not monetary). The top three priorities for the University were salary, benefits, and money for faculty development.

Results after one-year following this process for the University priorities include: cost of living increase, current discussion in faculty senate on increasing faculty development funds, and no decrease in cost of health insurance. Results from the RUCOP priorities include: an evaluation of workload (specifically teaching), in which a redistribution of teaching has occurred; clinical faculty members' time at their clinical sites have and continue to be evaluated to allow for more on-campus time to devote to scholarship and service; two new faculty positions have been added; recruitment (have hired multiple positions and are continuing to hire for open positions); and professional development (professional development committee offerings includes 19 new offerings for teacher and researcher development).

DISCUSSION

The primary objective of this study was to describe a qualitative methodology that can be used to engage faculty in a process to improve job satisfaction. The study also aimed to uncover the top priorities of faculty to improve faculty satisfaction and their sources of pride regarding the College and University.

Tools like the Delphi Method, NGT (nominal group technique), SWOT (strengths-weakness-opportunities-threats), and SOAR (show, organize, act, reflect) are used to gather information to promote the problem-solving process which then can be utilized to promote change.[18-21] Choosing the right tool that will promote engagement in the process of change and problem-solving as well as complement the QA process is vital. Drawbacks to NGT, SWOT, and SOAR in this situation are that they require face-to-face meetings typically in small groups where not all individuals participate the exchange of ideas for all topics being discussed.[19-21] While the aforementioned tools will help identify areas of strengths and weaknesses or opportunities, the Delphi tool is unique in that it continuously engages all individuals to come to consensus using an anonymous process.[18] Both of these make the Delphi tool especially useful in gathering feedback and driving consensus.

One potential drawback to the Delphi and SWOT methods are that they can over-focus on gaps and not on the positive areas or strengths of a university, college or department. The SOAR method uses principles of AI (appreciative inquiry) that promotes focus on strengths based strategies.[21] AI is a growing method to promote change which is goal-oriented and intended to be inspiring and positive. The SOAR method is not, however, anonymous. When dealing with sensitive issues, anonymity can increase truthfulness and promote responsiveness from respondents.[22-23] In implementing this process, administration felt that a balance between identifying negative items like determining gaps to resolve problems and identifying positive items like determining what is working well and what could be further promoted (thus moving the Delphi process further towards AI principles) would help inspire individuals in the change process. It would help to achieve the balance between the positive and negative elements. By asking for both, faculty can reflect on good qualities associated with their positions as well as the

items that need improvement, thus not overly focusing on the negative. The discussion of areas of pride also serves as a reinforcement for administration.

Another positive for the Delphi Technique is that it allows the investigator to control the feedback which can reduce bias.[18] With multiple iterations, respondents must give input and explanations, thus giving other respondents time to consider the relevance through the ranking and feedback process. By organizing themes and keeping the respondents answers for other respondents to review, the RUCOP faculty had time to consider the arguments and weigh what they believe is the most important themes for the College to prioritize. Items that only one or two faculty members felt were important were reflected in the process with less faculty feedback or votes. However, this does not mean that the theme was ignored, as faculty did have time to review the explanations and consider if that theme should rank at a higher level. Additional insights are shared with each iterative round, thus decreasing the chance for bias to enter into the process.[18] This sets the stage for each iteration to become focused on problem solving so that the final product (the priorities list) reflects true consensus.

When considering what methodology to use, the number of participants who will contribute to the process must be considered. Originally, the Delphi Technique was composed of a small homogeneous expert panel that typically consisted of 10-15 respondents.[18-19] However, publications since that time vary quite considerably on the number of participants based upon the researchers needs. This technique can help larger groups achieve consensus on priorities to drive QA initiatives that move an organization forward with group sizes into the hundreds.[18-19] Thus, colleges or departments could use this technique to gather and refine faculty priorities. The major drawback being that with a larger number of participants, the investigator may spend a significant amount of time categorizing information and encouraging individuals to respond.

Additionally, respondents may also spend greater amounts of time responding to surveys in order to achieve consensus.[18] Categorizing, developing, and delivering the surveys took approximately 30 dedicated investigator hours for the 31-33 respondents. Additional hours spent on the QA cycle and communicating progress also needs to be considered. Barriers to implementation will likely occur and will require time commitments as well. As with any project, goals for communicating changes (time-frame) should be set and adhered to. In all, employee and administrative time devoted to implementation should be carefully weighed and planned to fit into workload.

The response rates for these surveys (between 78% and 82.9%) indicates that most faculty were involved in the process and expressing their opinions. Initial literature on the Delphi Technique from 1975 suggests that the surveys should ideally remain open for two weeks.[24] This allows sufficient time to respond to the survey and helps improve response rate giving the investigators time to encourage response if needed. Both surveys remained open for 14-15 days to maximize internal response rates.

The open-ended questions from Round One resulted in 13 categorical themes. In the two published papers by Desselle and Conklin on pharmacy job satisfaction,[7,10] the themes were resources for scholarship, institutional support and reward, requirements for promotion and tenure, availability of a graduate program, collegiality, and teaching environment.[7,10] The 2001 publication by Latif et al. focused on junior faculty and measured job satisfaction in greater than 20 academic role functions in the three main areas of teaching, service and research.[9] Additionally, they measured characteristics such as gender, discipline, teaching experience, type of institution, length of program existence, use of vacation time, and hours spent working per week. The relationships between these characteristics and faculty satisfaction in the three areas

of teaching, service and research were measured.[9] Areas that scored less than 3 on a scale of 1-5 (thus showing the least satisfaction) in teaching were related to faculty evaluation of teaching and teaching rewards.[9] In research, almost all areas scored less than 3 on a scale of 1-5 showing a relative lack of satisfaction in the area of research overall. In area of service, two items scored less than 3. These were related to a lack of a clear understanding for promotion and tenure requirements and a lack of a reward system for service to the institution.

All of the articles published in the pharmacy literature[7-12] measured faculty satisfaction from large surveys of US pharmacy faculty which may not be relevant to an individual department, college or smaller university. In contrast, the Delphi Technique is a process that can be used at the college, department or smaller university level and can help to identify specific and relevant concerns. The themes from the current study indicate some similar findings such as institutional support and reward (faculty development, professional development and salary) and teaching environment/work-life balance (workload), but varied in the remaining areas. This illustrates that job satisfaction may not be a one size fits all. In order to promote change, one must know what to change. The Delphi Technique can certainly narrow the focus and give administration the knowledge necessary to target greater job satisfaction in addition to giving the faculty the sense of ownership. While some of the themes noted by faculty were not under the control of the College per se, they are items that can be discussed at a higher administrative level and can give College administration some evidence to show upper administration what faculty perceive is needed to improve their job satisfaction.

Agreement by faculty to narrow the priority list to three served several purposes. First, items at the very top using the Delphi Technique have the greatest consensus. Second, the themes are ranked as the most important for the faculty, so if they can be resolved, these will

have the most impact on the intended outcome, job satisfaction. Third, since the items are problems where agreement was reached, faculty as a group should engage in the problem-solving process as they are vested in resolution. However, there is not any evidence as this time that faculty job satisfaction is increasing as it has yet to be measured since RUCOP administers the AACP faculty survey once every three years. The only evidence that job satisfaction is increasing or will increase is that faculty developed and agreed to the themes as well as the top three priorities. This resulted in administrative efforts to resolve the priorities. Certainly, the aim of this paper was to demonstrate the methodology used to gather faculty priorities for improved faculty satisfaction and to demonstrate how change management can be used to further the quality assurance process, rather than to determine whether the faculty satisfaction was achieved.

Fitting the Delphi Technique into the larger theory of change management can provide the framework for moving the organization towards change. There are many change management theories which could be utilized all with their own pros and cons. These theories include: ADKAR, Bridges' transition model, Kotter's theory, Kübler-Ross' change curve, Lewin's change management model, the McKinsey 7-S model, Nudge theory, and the Satir change management model. Lewin's Change Management Model is popular because it uses three simplistic steps as opposed to multiple steps or no steps (change curve) with the other models.[17] Lewin's Change Management Model can provide the framework for change while the organization can use other tools to move the process forward (such as the Delphi Technique, SWOT, or SOAR). Lewin's model has three steps including "unfreeze" as step one, where the organization thoroughly and in detail reviews the processes that are not working or need to be changed.[17] This is where the tools like Delphi can be used to gather

the detailed information that is needed. The second step is to make the changes. This step should include hands-on attention by those implementing the change including transparency and over-communication,[17] as communication is key. The third step is "refreeze". It includes a component of QA so that continuous measurement of the new status quo does not slip back into the "old status quo".[17]

Since there were six areas of change indicated (three at the University level and three at the College level), each priority is in various stages of the Lewin's model. There can be no improvement in job satisfaction unless each priority is followed, measured, and communicated. The results indicate partial implementation of the University priorities, and while components of each College level priorities have been implemented, the administration will continue to work on furthering these priorities. This is where the QA cycle of the change management model is crucial. Additionally, communication of the changes and continued efforts must not be forgotten.

As demonstrated by Desselle and Conklin in their 2010 study, when faculty reported "slight satisfaction" with their jobs,[7] or when work-life balance satisfaction is low as shown by Lindfelt et al.,[8] faculty may be driven to leave academia.[11] This manuscript demonstrates a unique way in which the top priorities for improved job satisfaction among faculty can be identified. With the Delphi Technique, it is not only possible for faculty to reflect and express their drivers for job satisfaction, but also to observe, provide feedback, and synthesize every other faculty's needs for job satisfaction and come to a consensus on change. A procedure such as this can also provide confidence to the Dean and the upper administration to develop and implement interventions since it is a collective consensus rather than aggregate from the individual survey responses. The response rates to the last rounds of this technique gives us

confidence in the satisfaction level of faculty with this technique, and hence can be used by other university administrations.

Limitations

Limitations associated with the process should also be discussed. For institutions (larger programs) who might use this process, it is important to know upfront that when a large group is asked to respond a greater quantity of feedback is generated. Thus, greater amounts of time spent by investigators categorizing and organizing the data, and greater amounts of time spent by respondent's reviewing and ranking the information. Alternatively, this process can be done by each department since the priorities may be different, thus providing the college administration an opportunity to better understand the needs of each department. As discussed earlier, a strength associated with the Delphi Technique is the anonymity of the process and the controlled feedback via categorization which decreases the chance for molding of opinions.[18] However, it does not eliminate it. Thus, those faculty with the ability to argue their point clearly and persuasively may still sway opinion. Since round 3 was not completed via an anonymous survey, but during a faculty meeting, this type of bias could have entered the process. Given the high degree of faculty consensus for the top two RUCOP priorities and the top three University priorities, this seems unlikely overall but, nonetheless, a potential concern when deviating from the intended process. The third RUCOP priority generated more discussion since there was a tie between faculty governance and professional development. Given that faculty governance was almost entirely a one campus priority, and professional development was more evenly distributed between the two campuses, professional development was chosen. Needless to say, faculty governance will be something that should be addressed in the future. Reflecting back on the process, it may have been better to have had four rounds instead of three where the third, fourth

and fifth rankings were separated out and sent back to faculty for anonymous ranking before discussion occurred at a faculty meeting.

CONCLUSION

Despite these limitations, the process did achieve the goal set by the AC of uncovering faculty priorities to guide QA efforts in an effort to promote faculty satisfaction. It uncovered areas of pride that can help promote faculty morale and it helped faculty set realistic goals related to their job satisfaction. Using the Delphi Technique promoted proactive engagement and focused the faculty to become the primary driver to their own job satisfaction. The Lewin Model of Change Management is an easy to implement process that fits well with the Delphi Technique. Further study on using these two models together will include comparisons of the before and after AACP faculty survey. Since this survey occurs every three years, it is not available at the time of this manuscript's development.

In conclusion, Lewin's Model of Change Management[17] and the Delphi Technique[18] were used together to promote change at RUCOP and at the University. It is a process that any department, college or smaller university could use to identify problems, promote consensus and change at their site. It has been moderately successful thus far, but true measurement of success will occur when faculty satisfaction can be measured via future surveys.

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Declaration of interest statement

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534 Figure 1. Lewin's Change Management Model (Hussain et al. 2019)

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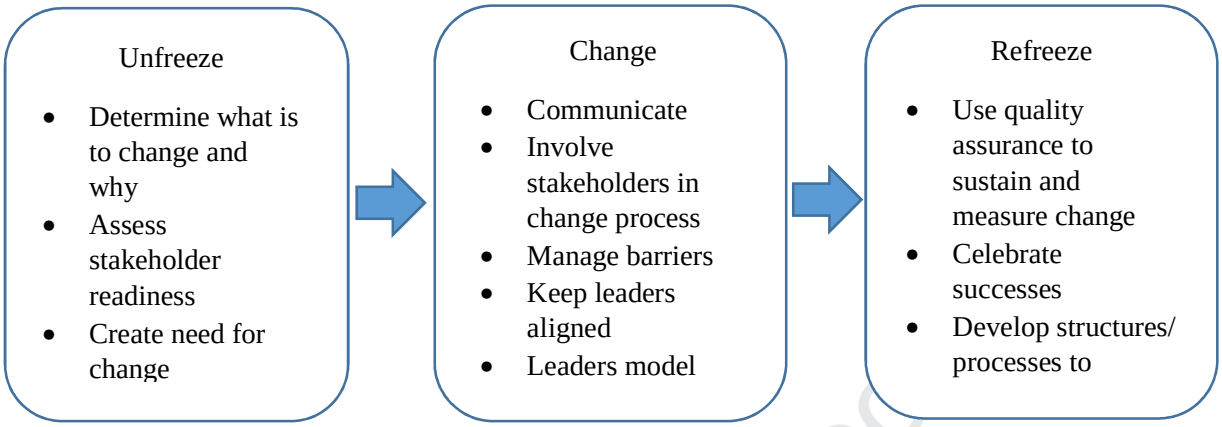


Table 1. The Delphi Technique (Hsu and Sandford 2007)

Round 1 – Anonymous open-ended questionnaire sent to experts; followed by conversion of responses to structured questionnaire.

Round 2 – Anonymous questionnaire with summarized topics from Round 1. Experts rate or rank the topics to establish priorities.

Round 3 – Anonymous questionnaire with prioritized topics from Round 2; experts are asked to make further clarifications on topics (expect only a slight increase in consensus from Round 3).*

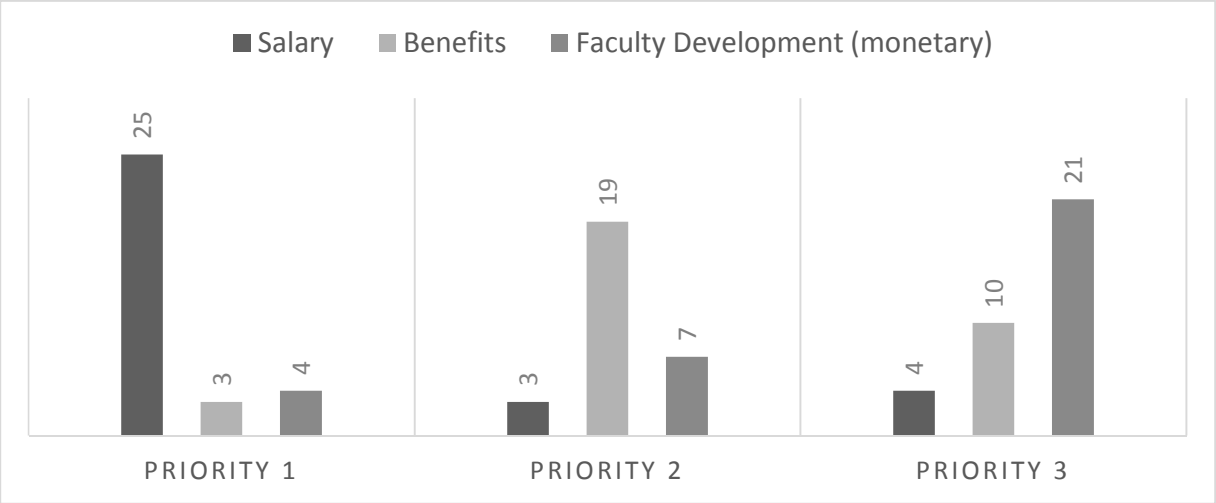
Round 4 – Anonymous questionnaire with ratings, minority opinions and items achieving consensus from Round 3 distributed; experts revise their judgements.*

*Rounds may vary from 3-5 depending upon degree of consensus

Table 2. Categorical Themes from Round 1

1. Salary
2. Benefits
3. Faculty Development Resources (monetary)
4. Workload Responsibilities
5. Recruitment (staff/faculty)
6. Professional Development (training, coaching, mentoring, evaluation)
7. Faculty Governance
8. Policy Changes (programmatic)
9. Curriculum (oversight, standardization, expectations)
10. Admissions
11. Transparency in Decision Making
12. Administration
13. Miscellaneous (items with only 1 response from entire faculty)
    a. Keep consistent
    b. Improve technology
    c. Bring two campuses closer together
    d. Improve comradery with all departments

568 Figure 2. Top three faculty priorities for University administration



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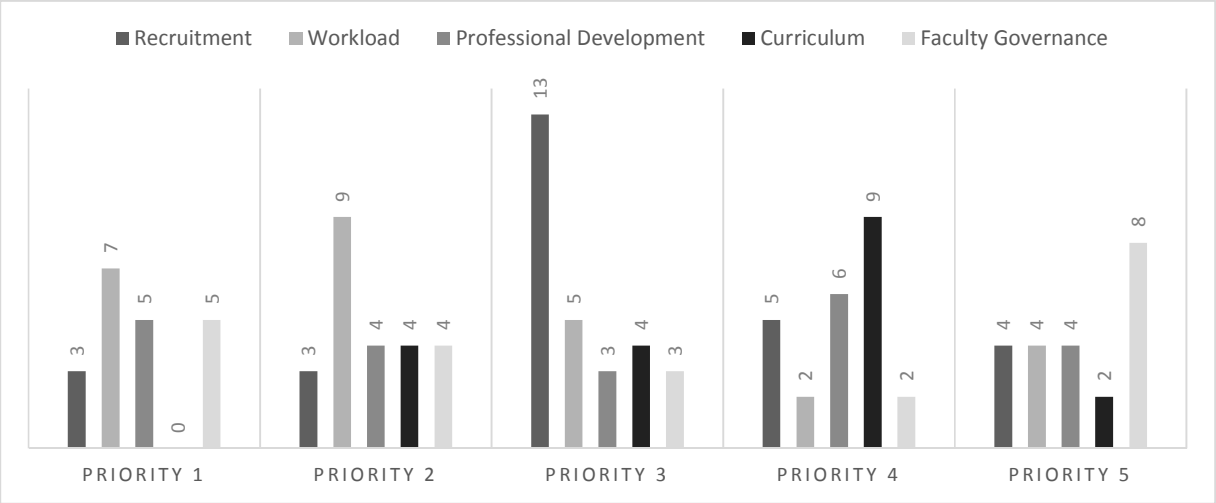
573 Figure 3. Top five faculty priorities for XXCOP



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