University Climate Affecting the Teachers’ Motivation Towards Improvement of Teachers’ Classroom Performance in Shandong Qilu University of Technology

Guo Yanling¹,²
¹Emilio Aguinaldo College, Manila, Philippines
²Faculty of Light Industry, Qilu University of Technology (Shandong academy of sciences)
Shandong, China.
Email: yanling.guo.mnl@eac.edu.ph

Abstract: This study examined how university climate impacts teacher motivation at Qilu University of Technology in China. Motivation theories highlight drives to satisfy needs and internal cognitions. University climate factors like supportive leadership, collegial relationships, professional development, and adequate resources are found to enhance teacher motivation. However, climate-motivation links are understudied in China’s centralized education context. This correlational study surveyed 168 faculty on their perceptions of university climate dimensions (leadership support, collegiate relationships, professional development, resources) and motivation levels (intrinsic - achievement, relationships, autonomy; extrinsic - compensation, security, reputation, pressure) using researcher-developed questionnaires. Data analysis determined profile, climate and motivation levels, differences based on demographics, and their relationships using descriptive and inferential statistics. Results revealed moderately positive climate perceptions, with peer support viewed most favorably. Motivation was consistently high, especially intrinsic motivation. All climate dimensions positively correlated with motivation, particularly intrinsic motivation. A supportive climate fulfilling needs was significantly associated with heightened motivation. Findings imply administrators should strengthen leadership, peer collaboration, professional development and resources to enhance teacher motivation and performance. Keywords: University climate, Teacher motivation, Teacher performance, Intrinsic motivation, Extrinsic motivation

Introduction
This study examined the relationship between university climate and teacher motivation at Qilu University of Technology in China. Teacher motivation is crucial for instructional quality and student learning. University climate, representing the atmosphere, culture, resources, and relationships in a university, has been found to impact teacher motivation. Supportive leadership, strong peer relationships, professional development opportunities, and sufficient resources promote motivation. However, despite extensive research in western contexts, the linkage between university climate and teacher motivation remains understudied in China. The centralized education system and traditional practices in Chinese universities pose challenges for teacher motivation. It is valuable to investigate climate-motivation connections within this cultural context. This study was conducted at Qilu University of Technology, a public institution in Shandong Province, China. The research focused on the Faculty of Light Industry which provides engineering and technology programs. Although the faculty has gained teaching and research honors, the top-down leadership approach in Chinese universities may limit faculty enthusiasm. This study aimed to examine how university climate factors relate to teacher motivation in this setting. The literature review provided theoretical models of motivation and empirical evidence that climate dimensions affect motivation. The study methodology involved surveying 168 faculty on their perceptions of university climate and motivation levels using researcher-developed questionnaires. Data analysis determined profile, climate, and motivation levels; demographic differences; and climate-motivation correlations using descriptive and inferential statistics. This correlational study hypothesized that positive university climate enhances teacher motivation. Findings can guide administrators in improving climate and motivation to increase teacher performance. The results will inform university policies, help faculty address concerns, improve student instruction, and guide future research. Limitations are the single setting and small sample. Overall, this study contributes insights on associations between university climate, teacher motivation, and performance in the Chinese context.

Literature Review
Teacher motivation is critical for instructional excellence and student learning outcomes. Extensive research has examined contextual factors tied to teacher motivation, with university climate receiving substantial attention. University climate represents the atmosphere shaped by leadership, relationships, resources, and values in an institution that impacts teacher experiences [¹]. Evidence consistently shows that supportive leadership, strong peer relations, professional development, and adequate resources promote teacher motivation across settings. [²] However, despite abundant western
studies, research on university climate and teacher motivation remains limited in China's centralized education context dominated by traditional practices that constrain instructor innovation and enthusiasm. This literature review synthesizes key motivation theories and empirical studies on linkages between university climate dimensions and teacher motivation while highlighting gaps in Chinese settings.

Teacher motivation reflects the inner drive and external pressures to devote effort toward instructional activities. Diverse frameworks explain motivation, including needs theories emphasizing drive to satisfy needs from basic to self-actualization [3], cognitive theories focusing on expectancies, values, and goals, and self-determination theory underscoring autonomous motivation driven by inner interests and values [4]. Teacher motivation is influenced by needs for achievement, relationships, autonomy, respect, cognitions about teaching value, inner passions for the profession, and positive emotions. Contextual factors like university climate critically shape these motivational drivers.

University climate represents the atmosphere shaped by organizational systems and stakeholder interactions [5]. Research identifies several key climate dimensions fundamental for teacher motivation. Supportive leadership entailing principal care for teachers, respect, and participatory decision-making meets social needs and reinforces positive cognitions and emotions that motivate teachers.[11-12] Collegial relationships marked by collaboration and peer support provide relatedness and belonging essential for intrinsic motivation and satisfaction [6]. Professional development opportunities and instructional resources support growth, mastery, and effectiveness needs [7]. Studies across cultural settings provide robust evidence that positive university climate fulfilling teacher needs significantly enhances motivation and engagement [6]. However, climate-motivation linkages need deeper examination within China's hierarchical education context dominated by traditional cultural practices that constrain teacher autonomy and motivation.

This review synthesizes major motivation theories highlighting inner drives and external pressures. It also integrates recent empirical evidence that supportive leadership, collegial relations, professional development, and resources - key aspects of university climate - are vital for satisfying teacher needs and enhancing motivation. The study makes a valuable contribution by reviewing motivation theories and climate factors while revealing gaps in Chinese university contexts that necessitate further research.

Teacher Motivation Theories

Diverse theoretical frameworks have been utilized to conceptualize teacher motivation. Need theories like Maslow’s hierarchy and Herzberg’s two-factor model view motivation as the drive to satisfy needs from basic to higher-level ones. They imply that fulfilling teacher needs at different levels is key for their motivation. Process theories including Vroom’s expectancy theory and Locke’s goal-setting theory focus on cognitive processes in motivation. They suggest that teacher motivation can be enhanced by helping teachers recognize the value of their work and providing meaningful goals. Contemporary theories like self-determination theory [13] highlight autonomous motivation driven by internal interests and values. They point to the importance of supporting teacher autonomy and emotional well-being for motivation. In general, teacher motivation is motivated by needs for achievement, relationships, autonomy, and respect; cognitions about expectancy and value; intrinsic interests; and positive emotions [11]. These elements are closely tied to contextual factors like university climate.

University Climate and Teacher Motivation

University climate is defined as the atmosphere shaped by interactions between organizational features and individuals’ perceptions. Supportive leadership is a key climate element consistently found to determine teacher motivation. Principals who show care for teachers, respect their expertise, and involve them in decision-making help satisfy teacher needs and foster positive expectations, emotions, and autonomous motivation orientation. Collegial relationships indicating collaboration, open communication and peer support among teachers also satisfy needs for relatedness and belonging. This enhances intrinsic motivation, job satisfaction, and organizational commitment [12]. In addition, professional development opportunities and resource support constitute an empowering climate catering to growth and achievement needs. Lack of facilities and instructional resources severely undermines teacher motivation [13-14]. Overall, research provides solid evidence that a positive university climate fulfilling diverse teacher needs and fostering a supportive work structure sustains motivation and engagement in teaching across contexts. However, climate-motivation relationships need to be further explored in Chinese universities.

Motivation theories were critical in guiding this study examining how university climate impacts teacher motivation in China. Needs theories like Maslow’s hierarchy imply satisfying needs is key for motivation. They directed examining how climate fulfills needs to enhance motivation. Cognitive theories like expectancy theory highlight motivation cognitions. They guided assessing how climate shapes teacher perceptions of teaching value and goals. Self-determination theory explains autonomous motivation driven by inner interests and values. It focused investigating how climate supports autonomy and intrinsic motivation.

Overall, the diverse motivation theories integrating needs, cognitions, interests, and emotions provided an essential framework. They enabled conceptualizing inner and outer forces shaping teacher motivation. The theories powerfully informed developing the motivation scale assessing key dimensions. They also directed analyzing how fulfilling needs through climate boosts motivation. Motivation theories were pivotal by elucidating how climate interacts with needs and inner processes to foster teacher motivation. They provided critical guidance for this study.

Description of Study Area:
This study was conducted at Qilu University of Technology (QUT) in Jinan, Shandong Province, China. QUT is a public higher education institution founded in 2013 with approval from the Chinese Ministry of Education. It offers programs in diverse disciplines like science, engineering, economics, management, law, education, medicine, and liberal arts. The university currently has around 40,000 students and over 3000 faculty members.

The research was undertaken in the Faculty of Light Industry at QUT. This faculty provides 5 undergraduate majors related to light chemical engineering, packaging engineering, printing engineering, and functional materials. It has about 160 faculty members, with over 90% holding doctorate degrees. The faculty has gained various honors in teaching and research. However, the top-down administration approach and research prioritization prevalent in Chinese universities may limit faculty teaching enthusiasm. This study aimed to examine how university climate factors relate to teacher motivation in this setting.

Methodology
The study utilized a quantitative correlational survey design to examine the relationship between university climate and teacher motivation at Qilu University of Technology in China. The participants were 168 faculty members from the Faculty of Light Industry, which provides engineering and technology programs at the university. Census sampling was used to recruit the entire faculty population to participate in the study.

Two researcher-developed instruments were administered to assess university climate perceptions and teacher motivation levels. The University Climate Scale contained 22 items measuring four dimensions: Leadership Support (7 items), Collegial Relationships (6 items), Professional Development (4 items), and Resources and Facilities (5 items). Responses were rated on a 5-point Likert scale. The Teacher Motivation Scale comprised 40 items measuring Intrinsic Motivation (achievement, relationships, autonomy) and Extrinsic Motivation (compensation, security, reputation, pressure). Items were rated on a 5-point scale. Pilot testing supported the reliability and validity of both scales. A demographic questionnaire was also given.

The instruments were distributed via paper-and-pencil format and completed anonymously over a two-week period. Out of the population, 152 faculty responded validly, yielding a high response rate of 90%. Data analysis was conducted using IBM SPSS Statistics. Descriptive statistics determined profile, climate and motivation levels. One-way ANOVA tested for demographic differences. Pearson correlation measured climate-motivation associations.

Participants
The target population for this study was the entire faculty at a university in China, comprising 168 teachers. A census sampling method was utilized to recruit all faculty to participate. Out of the population, 152 teachers responded validly to the survey, yielding a high response rate of 90%. Among the 152 respondents, 53% were female and 47% were male. Regarding age, the largest proportion (52%) were between 30-40 years old. The next age group was below 30 years (23%), followed by 41-50 years (20%), and the remaining respondents were above 50 years old. Looking at teaching experience, most respondents (59%) had 6-15 years, 24% had less than 5 years, 11% had 16-25 years, and 6% had over 25 years of experience. In terms of highest qualification attained, an overwhelming majority (91%) held doctorate degrees.

Instruments
Two instruments were developed specifically for this study, as there was a lack of established comprehensive measures in Chinese:
1) University Climate Scale
2) Teacher Motivation Scale

University Climate Scale. This scale assessed teacher perceptions of organizational climate across four dimensions:
1) Leadership Support (7 items) - measured the principal's caring, respect and participatory leadership style.
2) Collegial Relationships (6 items) - measured the level of collaboration, communication and peer support among faculty.
3) Professional Development (4 items) - measured the availability and adequacy of training, conferences, research opportunities.
4) Resources and Facilities (5 items) - measured the provision of instructional materials, technology and physical facilities. Responses were rated on a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). Higher mean scores indicate more positive perceptions of organizational climate. Pilot testing supported the scale reliability (Cronbach's α = .94 overall, .80-.92 for subscales) and validity.

Teacher Motivation Scale. This scale measured key dimensions of motivation identified in the literature:
1) Intrinsic Motivation (21 items) - internal drive arising from values, interests and satisfactions in teaching. This comprised:
   - Achievement Motivation (7 items) - drive to excel in instruction and see student progress.
   - Relationship Motivation (7 items) - drive for positive student and collegial connections.
   - Autonomous Motivation (7 items) - drive for instructional freedom and control.
2) Extrinsic Motivation (19 items) - drive arising from external rewards, pressures and goals. This included:
   - Compensation Motivation (6 items) - drive for salary, benefits and bonuses.
   - Security Motivation (5 items) - drive for job and income stability.
   - Reputation Motivation (4 items) - drive for status, recognition and praise.
   - Pressure Motivation (4 items) - drive to meet expectations and avoid negative consequences.
Responses were rated on a 5-point scale from 1 (not at all true) to 5 (completely true). Higher subscale scores indicate stronger motivation drive. Pilot testing supported scale reliability (Cronbach’s α = .96 overall, .80-.92 for subscales) and validity.

A demographic questionnaire was also administered.

Procedures
The study received university ethics approval before commencement. The purpose and confidentiality of the research were explained to faculty before survey administration. Questionnaires were distributed and completed anonymously via paper-and-pencil format over a two-week period, yielding 152 valid responses for a high response rate of 90%.

Data Analysis
IBM SPSS Statistics Version 26.0 was utilized to analyze the data collected. Descriptive statistics including means, standard deviations, frequencies and percentages were calculated to describe the sample demographics and survey variables. One-way ANOVA was conducted to test for demographic differences in climate and motivation scores. Pearson correlation measured the relationships between climate dimensions and motivation types. The significance level was set at .05 for all statistical tests.

Results and Discussion
University Climate Perceptions
As shown in Table 1, the total sample climate perception mean was 3.15 (SD = .72), slightly above the scale midpoint of 3, indicating a moderately positive climate view. Among subscales, Collegial Relationships received the highest rating (M = 3.31) while Leadership Support was rated lowest (M = 2.98). Resources and Facilities (M = 3.18) and Professional Development (M = 3.09) fell in the middle. The results suggest faculty viewed peer support most favorably but administrator leadership less positively.

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>MEAN</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEADERSHIP SUPPORT</td>
<td>2.98</td>
<td>.92</td>
</tr>
<tr>
<td>COLLEGIATION RELATIONSHIPS</td>
<td>3.31</td>
<td>.80</td>
</tr>
<tr>
<td>PROFESSIONAL DEVELOPMENT</td>
<td>3.09</td>
<td>.94</td>
</tr>
<tr>
<td>RESOURCES AND FACILITIES</td>
<td>3.18</td>
<td>.84</td>
</tr>
<tr>
<td>TOTAL CLIMATE</td>
<td>3.15</td>
<td>.72</td>
</tr>
</tbody>
</table>

Table 1 Means and Standard Deviations of University Climate Scores
The study reveals that teachers at the university have a moderately positive perception of the overall organizational climate, with a mean score of 3.15 on a 5-point scale. This score is slightly higher than the scale midpoint, suggesting climate is viewed relatively favorably but there is still room for improvement.

Examining specific dimensions, collegial relationships among peers received the most favorable rating from faculty (M = 3.31). This indicates that teachers view peer support, collaboration, and communication positively. Strong collegial ties likely help satisfy teachers’ needs for belonging and connection. In contrast, leadership support was rated lowest (M = 2.98) among climate facets. The comparatively lower score suggests administrators are perceived as less caring, respectful and involving of teachers in decisions. Authoritarian leadership approaches prevalent in Chinese universities may contribute to this.

Resources and facilities (M = 3.18) and professional development opportunities (M = 3.09) fell in the middle range of scores. While adequate, teachers likely desire even better provision of instructional materials, technology, training and growth prospects.

Overall, the climate dimension ratings reveal faculty view peer support as the most advantageous aspect, while leadership practices need improvement. Collegial relationships appear to be a strong motivator, fulfilling relational needs. But centralized administrative approaches seem to undermine faculty motivation and autonomy.

Teacher Motivation Levels
As shown in Table 2, overall teacher motivation was high (M = 4.02, SD = .61) with all subscale means above the scale midpoint of 3. Intrinsic motivation (M = 4.11) was rated higher than extrinsic motivation (M = 3.96). Among intrinsic factors, autonomous motivation was strongest (M = 4.24), followed by achievement (M = 4.15) and relationship motivation (M = 4.04). For extrinsic motivation, reputation drive ranked highest (M = 4.12), above security (M = 4.01), compensation (M = 3.92) and pressure motivation (M = 3.75).

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>MEAN</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACHIEVEMENT MOTIVATION</td>
<td>4.15</td>
<td>.65</td>
</tr>
<tr>
<td>RELATIONSHIP MOTIVATION</td>
<td>4.04</td>
<td>.74</td>
</tr>
<tr>
<td>AUTONOMOUS MOTIVATION</td>
<td>4.24</td>
<td>.71</td>
</tr>
<tr>
<td>INTRINSIC MOTIVATION TOTAL</td>
<td>4.11</td>
<td>.59</td>
</tr>
<tr>
<td>COMPENSATION MOTIVATION</td>
<td>3.92</td>
<td>.76</td>
</tr>
<tr>
<td>SECURITY MOTIVATION</td>
<td>4.01</td>
<td>.62</td>
</tr>
<tr>
<td>REPUTATION MOTIVATION</td>
<td>4.12</td>
<td>.68</td>
</tr>
</tbody>
</table>
The results reveal that teachers at the university have consistently high motivation levels, with an overall mean score of 4.02 on the 5-point scale. This well exceeds the scale midpoint, indicating motivation is strong across the sample. Examining motivation types, intrinsic drives were rated higher (M = 4.11) than extrinsic pressures (M = 3.96). This implies inner motivations stemming from passion and values are stronger incentives than external rewards or constraints. Among intrinsic motivations, the desire for autonomy in teaching was rated highest (M = 4.24). Teachers strongly value freedom and discretion in instructional decisions. Next strongest was achievement drive (M = 4.15), reflecting motivation to excel and foster student progress. Relationship drive followed (M = 4.04), showing teachers are also motivated by positive student and peer connections.

For extrinsic facets, reputation incentives were rated most impactful (M = 4.12). Teachers are motivated by status, recognition and praise for their work. Job security drive followed closely (M = 4.01), reflecting valuing stability and steady income. Compensation incentives like pay and benefits were rated moderately (M = 3.92). Pressure motivation was lowest (M=3.75), but still substantial, indicating expectations and consequences drive teachers to some extent. Overall, the motivation profile reveals teachers are primarily driven by intrinsic desires to achieve, build relationships, and have autonomy. Inner passions exceed external pressures. But reputation, security, compensation and pressures do substantially motivate as well.

Differences in Climate Perceptions and Motivation

No significant climate or motivation differences were found across teacher groups based on gender, age, education and experience. Climate views and motivation levels were mostly consistent throughout the sample.

Relationship between University Climate and Teacher Motivation

As shown in Table 3, all climate dimensions positively correlated with both intrinsic and extrinsic motivation types, mostly at medium to strong magnitude based on Cohen's (1988) criteria. The strongest associations occurred between overall climate and intrinsic motivation (r = .56), especially relationship motivation (r = .55). Collegial relationships had the highest correlations with intrinsic motivation followed by leadership support. Extrinsic motivation related most strongly to reputation, leadership, resources, and professional development. The pattern indicates positive university climate has significant links to heightened teacher motivation, particularly intrinsic motivation.

### Table 3: Correlations between University Climate and Teacher Motivation

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>Achieve-ment</th>
<th>Relation-ship</th>
<th>Autonomou s</th>
<th>Total Compensation</th>
<th>Securi ty</th>
<th>Reputatio n</th>
<th>Pressure</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEADERSHIP</td>
<td>.32**</td>
<td>.48**</td>
<td>.38**</td>
<td>.44*</td>
<td>.26**</td>
<td>.34*</td>
<td>.42**</td>
<td>.16*</td>
</tr>
<tr>
<td>RELATIONSHIP</td>
<td>.44**</td>
<td>.53**</td>
<td>.46**</td>
<td>.54*</td>
<td>.24**</td>
<td>.28*</td>
<td>.37**</td>
<td>.09*</td>
</tr>
<tr>
<td>DEVELOPMENT</td>
<td>.41**</td>
<td>.42**</td>
<td>.37**</td>
<td>.45*</td>
<td>.33**</td>
<td>.39*</td>
<td>.44**</td>
<td>.21*</td>
</tr>
<tr>
<td>RESOURCES</td>
<td>.39**</td>
<td>.46**</td>
<td>.44**</td>
<td>.48*</td>
<td>.28**</td>
<td>.33*</td>
<td>.38**</td>
<td>.15*</td>
</tr>
<tr>
<td>TOTAL</td>
<td>.45**</td>
<td>.55**</td>
<td>.49**</td>
<td>.56*</td>
<td>.33**</td>
<td>.40*</td>
<td>.47**</td>
<td>.18*</td>
</tr>
</tbody>
</table>

Note. * p < .05, ** p < .01.

Table 3 Correlations between University Climate and Teacher Motivation

The results reveal robust positive correlations between all dimensions of university climate and both intrinsic and extrinsic teacher motivations. This suggests that a supportive organizational climate is significantly associated with enhanced motivation.

The strongest correlation found was between overall climate and intrinsic motivation (r = .56). This implies that a favorable climate is linked most closely with elevated internal drive and passion for teaching. Among climate facets, collegial relationships showed the highest correlations with intrinsic motivation (r = .54), followed by leadership support. This indicates peer support and collaboration are vital climate factors connected to intrinsic motivation. Extrinsic motivations were also positively correlated with climate, most strongly with reputation incentives (r = .47). Leadership support, professional development, and resources also showed meaningful associations with extrinsic drives. This suggests that a positive climate fosters both internal and external motivations.

The pattern demonstrates university climate has a substantial relationship with heightened teacher motivation, particularly intrinsic motivation. Collegial relationships have the closest connection, highlighting the importance of peer support and
teams. Supportive leadership is also impactful. Providing quality professional development and resources contributes as well.

Conclusion
This study provided significant insights on teacher motivation from a university climate perspective within the Chinese cultural context. The results revealed that faculty held a moderately positive view of the overall university climate, with collegial relationships perceived most favorably but leadership support rated lower. Teacher motivation levels were consistently high across the sample, with intrinsic drives like achievement, relationships and autonomy outweighing extrinsic motivations such as compensation. All dimensions of university climate, especially peer relationships, showed robust positive correlations with teacher motivation. These findings have important practical implications. The vital role of collegial relationships in driving intrinsic motivation suggests faculty teamwork and collaboration should be actively promoted by administrators. Leadership practices need to be strengthened to become more caring, respectful and participatory toward instructors. Providing quality professional development and resource support was also found to enhance teacher motivation, hence effort is warranted to ensure these provisions. The study makes a valuable contribution by generating empirical evidence on how to enhance teacher motivation and performance within China's centralized education context through cultivating a positive university climate.

However, some limitations should be acknowledged. The sample was limited to one university faculty and was relatively small, restricting generalizability. Larger multi-institutional samples would improve representation. Additionally, the cross-sectional survey methodology cannot determine causal climate-motivation links. Experimental or longitudinal approaches could better establish causality. Further research can explore mediating and moderating mechanisms in the climate-motivation relationship, such as how university climate interacts with individual differences to shape motivation.

Investigating contextual variations in climate-motivation associations across diverse educational settings would also be worthwhile.

Overall, this study provided significant evidence and insights to guide university policies and practices aimed at improving teacher motivation and effectiveness through fostering a supportive organizational climate in the distinctive Chinese context. The findings will help inform administrator efforts to enhance collegial relations, leadership support, professional development and resources to create an empowering climate that meets teacher needs and sustains their motivation. This can bring substantial benefits for instructional excellence, student learning, and educational advancement in China.

References