Chapter 3
Methodology

The purpose of this study was to explore leadership practices exercised by the leaders of higher education institutions in Mongolia from the perspective of American leadership concepts and practices. The study examined how leaders conduct their business as administrators and how their leadership was perceived by their main constituents: Deans, Department Heads, and faculty members.

The investigator intended to reveal generalized findings in regard to the practices of leaders of higher education institutions in Mongolia by answering the following research questions:

1. To what extent do Rectors of higher education institutions in Mongolia exhibit the five fundamental leadership practices measured by Kouzes and Posner’s (1997) Leadership Practices Inventory (LPI)?
2. To what extent do the Deans of colleges or faculties at higher education institutions in Mongolia exhibit the five fundamental leadership practices as measured by the LPI?
3. To what extent do Department Heads as leaders of academic units in higher education institutions in Mongolia exhibit the five leadership practices as measured by the LPI?
4. Are there differences in leadership practices among Rectors, Deans, and Department Heads?
5. Are there differences between the LPI-Self and LPI-Observer scores on leaders of Mongolian higher education institutions?
6. Are there differences in leadership practices employed by leaders in public and private institutions of higher education in Mongolia?
7. Are there differences in leadership practices between leaders who were appointed to the leadership position after the advent of democracy in 1996, leaders who were appointed between 1990 and 1996 when there was a coalition government, and leaders who started their tenure during socialist time (pre-1990)?

Sample Selection

The population for this study included persons in academic administrative positions in higher education institutions in Mongolia, namely Rectors, Deans, and Department Heads. The
researcher had to group all academic positions into these three levels of administration according to their functions as Mongolian institutions have different organizational structures and different titles for the similar positions. As of September 1999, there were 62 Rectors, 99 Deans, and 421 Department Heads employed by institutions of higher education in Mongolia. There were 16 Rectors at public institutions and 46 Rectors at private institutions. There were 53 Deans in public and 46 Deans in private institutions at the time of study. Finally, 307 Department Heads were in public higher education institutions, 114 Department Heads were in private higher education institutions. An explanation of how these positions were assigned is provided in Appendix A. Data in the study were collected from a sample of all three types of administrators.

The instrument used to collect data for the study, the LPI, also requires data from followers of leaders. To this end, the researcher collected data from a sample of faculty members at the institutions where the administrators served. Appendix B provides information about the number of faculty members at each institution in Mongolia at the time of the study.

Therefore, it was necessary to select two samples for the study. The first consisted of institutions to be included in the study. There were 62 institutions of higher education in Mongolia at the time of the study, 16 of which were public schools and the remaining 46 of which were private institutions. The researcher selected 10 public and 10 private higher education institutions that represented the Mongolian higher education system in terms of size, number of academic programs and number of administrators and faculty.

The second sample consisted of the participants at each selected institution. From each of selected institutions, one senior administrator (Rector or Vice-Rector for Academic Affairs depending on availability), one middle-level administrator (Dean), and two leaders of academic units (Department Heads) were chosen purposively. Five faculty members from each of the two departments headed by the selected Department Heads were randomly chosen for participation in the study. These faculty participants were chosen from an alphabetical list of each department’s faculty members.

Data in the study were collected in an abbreviated, one-month time period during which the researcher was traveling in Mongolia. Because of the brief data collection period, the researcher was concerned about the availability of all selected respondents to participate in the
study. To compensate for this uncertainty, the researcher selected two alternate Deans and Department Heads at each institution and two alternate faculty members in each of those departments. Alternates were asked to participate in the study if original members of the sample were unable to participate due to abbreviated data collection period.

The researcher contacted all participants selected for the study, explained the purpose of the study, and asked for their agreement to participate in this investigation. Once 20 Rectors, 20 Deans, 40 Departments Heads, and 200 faculty members representing the 20 selected higher education institutions agreed to be included in the study, the researcher initiated the data collection process.

Instrumentation

To find the most appropriate instrument for the study, leadership instruments developed and applied in different settings by American scholars were reviewed. These instruments included the Leadership Behavior Descriptive Questionnaire (LBDQ) (Stogdill, 1963); the Least Preferred Co-Worker Measure (Fiedler & Chemers, 1984) the Leader-Member Exchange Measure, LMX 7 (Dansereau, Graen, & Haga, 1975); and the Multifactor Leadership Questionnaire (Bass, 1985).

The researcher reviewed the advantages and disadvantages of these instruments and decided to employ the Leadership Practices Inventory (LPI) developed by James M. Kouzes and Barry Z. Posner in late 1980s and revised by them in 1997. The thrust of the LPI is to assess leadership practices based on responses to behavioral statements. These statements are grouped into five key leadership practices that are crucial components of behavior in any organization. The instrument includes 30 statements that describe the five key leadership practices: challenging the process, inspiring a shared vision, enabling others to act, modeling the way, and encouraging the heart. Each leadership practice is assessed through responses to six behavioral statements. There are two forms of the instrument: one form is designed for leaders who rate themselves on the 30 items. The second form is designed for followers (observers) who rate their leaders on the same 30 items.

The first key leadership practice (challenging the process) is assessed through responses to statements about how the leaders challenge themselves or others. Respondents asked to rate whether they seek out challenging opportunities, whether they challenge others to try
innovations, and whether they take risks even if there is a chance of failure. The six statements in this section focus on how leaders seek innovative ways to improve their organizations and change the status quo through experiments and risk-taking.

The second key leadership practice, inspiring a shared vision, is measured through another six items. Respondents are asked to rate whether they talk about future trends, appeal to others to share a dream, or are enthusiastic about the future. The items focus on whether leaders mentally create a vision, an ideal and unique image of the organization by enthusiastically encouraging others to dream about the future.

The third key practice, enabling others to act, includes statements that describe fostering collaboration and developing team spirit among people with whom the leaders work. Respondents are asked if they enable others to act, if success can be achieved by developing cooperative relationships among people, whether they listen to diverse points of view, and whether they treat others with dignity and respect.

The fourth key leadership practice, modeling the way, is assessed by behaviors and activities of leaders. Items ask respondents if they ask others to adhere to principles and standards, if they follow through on promises, if they set achievable goals, and if they establish measurable milestones. The assumption behind these items is that it is very difficult to request followers to do jobs as expected if leaders do not adhere to certain principles.

The fifth key leadership practice, encouraging the heart, is assessed in the LPI through items that focus on whether leaders describe a compelling image of future, show confidence in the abilities of those with whom they work, reward people for their contributions, recognize publicly people who exemplify commitment to shared values, and celebrate accomplishments. The six items on this scale measure such behaviors.

The LPI-Observer is the form of the instrument that followers complete about leaders. The items are identical on both forms of the instrument, but on the LPI-Self, leaders are instructed to rate themselves on each of the 30 statements and on the LPI-Observer form, followers are asked to rate their leaders on these same items.

The researcher selected the LPI for use in this study for several reasons. One advantage of the LPI is there are no statements that directly reflect American cultural values that could potentially confuse respondents from other nations. Another advantage of the instrument is that
it consists of two mutually complementary instruments Leadership Practices Inventory-Self (LPI-S) and Leadership Practices Inventory-Observer (LPI-O). How someone views his or her leadership practices is one thing, but how observers look at a leader’s practices is crucial for the leader. A Mongolian proverb says “Even a wise person might not think about something until someone suggests an idea.”

The response options on the LPI are fairly straightforward. Leaders rate their behaviors in terms of frequency with which they engage in these behaviors. Observers rate the behaviors in terms of frequency in which leaders engage in them. Each of the 30 statements has 10 response options ranging from “almost never” which is equal to 1 to “almost always” which is equal to 10. Thus, the cumulative score of each of the key leadership practices can range from 6 to 60 and the total score can range from 60 to 600.

One final obstacle with respect to the LPI had to be addressed by the researcher. The LPI was originally written in English. In order to administer it to a sample of Mongolians, it was necessary to translate the LPI to Mongolian while simultaneously ensuring that the meaning of the items was not lost in that translation. If the meanings were changed in the translation, the established reliability and validity of the instrument might be threatened.

To address this obstacle, the researcher took reasonable steps to protect the integrity of the instrument. The researcher, who is fluent in Mongolian, translated the instructions and items on the LPI to Mongolian. Then, the researcher asked a Mongolian linguist (the former Head of the Department of Mongolian Language at the Mongolian National University) to verify the translation from English to Mongolian. This process ensured that the integrity of the instrument was maintained throughout the study.

In addition to the LPI-S and LPI-O, a demographic survey was distributed that elicited data about the respondents’ age, gender, academic discipline, years of experience, years of tenure in present position, previous positions held and years in those offices. Copies of both forms of the LPI and the accompanying demographic survey appear in Appendix C.

Reliability and Validity

Reliability and validity of an instrument is always of concern in research like the present study. The LPI was validated by the authors through both quantitative and qualitative methods. The authors established that the LPI is internally reliable and that its six statements pertaining to
each leadership practice are highly correlated with one another. The internal reliabilities (Cronbach alphas) on the LPI range between .81 and .91. Reliability coefficients for the LPI-Self range between .71 and .85 and the coefficients for the LPI-Observer range between .82 and .92. (Kouzes & Posner, 1995, p.343).

In addition, test-retest reliability was high. Scores from one administration of the LPI to another within a few months were consistent and stable. Test-retest reliability for the five practices in studies conducted by Kouzes and Posner has been at the .93 level and above (Kouzes & Posner, 1995, p.344). The five dimensions of leadership practices are generally independent. Each of the leadership dimensions measures different practices.

In terms of validity, inclusion of responses from constituents about their leaders enables the researcher to use relatively independent assessments, thereby minimizing potential self-report bias. The LPI has both face validity and predictive validity. Regression analysis was performed, with leader effectiveness as the dependent variable and the five leadership practices as the independent variables. The regression equation was highly significant ($F=318.88; p<.001$). The leadership practices explained over 55 percent of the variance around constituents’ assessments of their managers’ effectiveness (Kouzes & Posner, 1995, p. 350). In other words, the results are meaningful to people. Results are correlated with various performance measures and can be used to make predictions about leadership effectiveness. The LPI has been proven as helpful in assessing executives’ leadership behaviors and providing useful feedback for fostering leadership skills.

Data Collection Procedures

The researcher sought permission from the Institutional Review Board for Research Involving Human Subjects prior to undertaking the study. Once that permission was proffered, data collection commenced.

The investigator traveled to Mongolia to collect data. Prior to travel, e-mail messages were sent to key leaders of higher education in Mongolia. The messages explained the purpose of the study, potential benefits of participating in the study, and the intended date of arrival of the investigator. These messages were sent to leaders of the Consortium of Universities and Higher Education Institutions of Mongolia (CUHEIM), the Consortium of Private Higher Education Institutions (CPHEI), and the Consortium of Mongolian Management Development
Institutions (CMMDI). The investigator also gathered statistical information about higher education institutions in Mongolia from the Ministry of Education in that country. He developed a list of Rectors, Deans and Department Heads for each institution along with their addresses and phone numbers.

Upon arriving in Mongolia, the researcher met with the Presidents of three Consortiums and officials from the Ministry of Education. Upon receiving their endorsement for the study, data collection commenced.

The researcher contacted the Rectors at the 20 selected institutions and asked for their participation. The researcher explained that if the Rector agreed to participate, others on that campus would be asked to participate. If the Rector did not agree to participate, the researcher selected an alternate institution in the sample and contacted the Rector at that institution. This process was repeated until 20 Rectors (10 from public and 10 from private institutions) had agreed to participate in the study.

Then, the researcher selected one Dean from each Rector’s institution and asked for his/her participation. If a Dean declined the invitation to participate, another Dean from that institution was selected and asked to participate. This process was repeated until one Dean from each participating institution agreed to participate (a total of 20, 10 from public and 10 from private institutions).

Once Deans were identified, Department Heads under the purview of each participating Dean were selected to participate in the study. The researcher sought two Department Heads for each Dean. If a Department Head declined to participate, an alternate Head was selected and asked to participate. This process was repeated until two Heads for each Dean agreed to participate (a total of 40, 20 from public and 20 from private institutions).

Finally, the researcher selected five faculty members in each selected Department and asked them to participate. If a faculty member declined to participate, another faculty member was selected and invited to participate. This process was repeated until five faculty from each selected department agreed to participate (a total of 200, 100 from public and 100 from private institutions).

It should be noted that there is a hierarchy of power within Mongolian institutions of higher education. If the Rector of an institution agreed to participate in the study, it was likely
that other administrators and faculty on that campus would be willing to participate in the study. The researcher relied on this assumption when contacting others about the study. He explained to each potential participant that the Rector had agreed to endorse and to participate in the study.

After all participants had been selected, the researcher contacted them in person or by phone to arrange dates for administration of the LPI. Rectors were asked to complete the LPI-Self. Deans were asked to complete the LPI-Self on themselves, and to complete the LPI-Observer to rate their Rector. Department Heads were asked to complete the LPI-Self on themselves, and to complete the LPI-Observer on both the Dean and the Rector. Faculty members were asked to complete three copies of the LPI-Observer: one on their Department Head, one on their Dean, and one on their Rector. In summary, all leaders completed an LPI-Self form on themselves and they completed an LPI-Observer form on any level of leadership above them. Faculty only completed LPI-Observer forms. This ensured that all leaders were evaluated by all levels of followers at the institution. To ensure accurate analysis of the data, the researcher coded every copy of the LPI administered in the study so that he would be able to discern both the leadership status of the person completing the instrument as well as the status of the person being rated by the instrument. Table 1 reports the number of participants and the number of administrations of the LPI-Self and the LPI-Observer.

Prior to administering the LPI instruments, participants of the study were informed of their rights and given two copies of an informed consent form to sign. The informed consent form ensured them that their confidentiality would be respected in both the data collection and the data analysis process. Participants were assured that their responses were confidential, would not be revealed to anyone and would be reported only in aggregate form.

Data Analysis Procedures

To analyze data, the researcher took several steps. First, individual profiles of self rated scores and observers’ scores were created for each Rector, Dean, and Department Head using LPI scoring software obtained from Jossey-Bass Publishers. Each profile enabled the researcher to examine the differences between the leader’s self rated scores and the observers’ individual and average scores on each of the five key leadership practices. In addition to this, each profile shows the consistency of ratings by observers or agreement among observers in terms of their judgment about the frequency of each behavior reflected in the 30 statements.
<table>
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<th>Title</th>
<th>Public</th>
<th>Private</th>
<th>Total</th>
<th>LPI-Self</th>
<th>From Deans</th>
<th>From Dept. Heads</th>
<th>From faculty members</th>
<th>Total</th>
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<tbody>
<tr>
<td>Rector or Vice-Rector</td>
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<td>10</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>40</td>
<td>200</td>
<td>260</td>
</tr>
<tr>
<td>Dean</td>
<td>10</td>
<td>10</td>
<td>20</td>
<td>20</td>
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<td>40</td>
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<td>240</td>
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<tr>
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<td>200</td>
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<tr>
<td>Faculty Member</td>
<td>100</td>
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</tr>
</tbody>
</table>
Once profiles were created, the researcher further examined the data to investigate the extent to which the five key leadership practices were exercised by Rectors, Deans, and Department Heads. The LPI yields scores for each of the five leadership practices. These scores were compared to a normative scale that has been established by Kouzes and Posner (1997). The normative scale provides a ranking of the five key leadership practices along a continuum of high, medium, and low scores. According to Kouzes and Posner’s normative comparison scale, percentile rankings between 70 and 100 are high, between 30 and 69 are moderate, and between 0 and 29 are low on each of the five key leadership practices. This normative scale was created from a database of more than 12,000 leaders and 70,000 observers who completed the LPI. The rankings were determined by the percentage of people who scored at or below a given level. As a result, each leader or group of leaders receives a rating of high, medium or low on each of the five practices measured by the instrument. After producing the profiles on all leaders, the researcher used the data to examine the research questions posed in the study.

The first research question posed in the study focused on the extent to which Rectors exhibit the five key leadership practices. To respond to this question, the researcher took the following steps. First, he calculated mean scores on the LPI-Self for each of the five key leadership practices for Rectors. He also calculated the mean scores for all five practices on the LPI-Observer forms that were completed on Rectors. Then, the researcher plotted the mean score of each leadership practice on a graph of the normative ranking scale created by Kouzes and Posner (1997). By connecting the data points, he constructed two polygons, one for Rectors’ self rated percentile rankings and another for observers’ percentile rankings on Rectors.

The second research question posed in the study sought to examine the extent to which Deans at higher education institutions in Mongolia exhibit the five fundamental leadership practices. To respond to this question, the researcher took the following steps. First, he calculated mean scores on the LPI-Self for each of the five key leadership practices for Deans. He also calculated the mean scores for all five practices of the LPI-Observer forms that were completed on Deans. Then, the researcher plotted the mean scores of each leadership practice on a graph of the normative ranking scale created by Kouzes and Posner (1997). Connecting these data points, he constructed two polygons, one for Deans’ self rated percentile rankings and another for observers’ percentile rankings on Deans.
The third research question posed in the study explored the extent to which the five fundamental leadership practices are reflected in behaviors and actions of Department Heads as leaders of academic units in higher education institutions in Mongolia. To respond to this question, the researcher took the following steps. First, he calculated mean scores on the LPI-Self for each of the five key leadership practices for Department Heads. He also calculated the mean scores for all five practices of the LPI-Observer forms that were completed on Department Heads. Then, the researcher plotted the mean scores of each leadership practice on a graph of the normative ranking scale created by Kouzes and Posner (1997). Connecting these data points, he constructed two polygons, one for Department Heads’ self rated percentile rankings and another for observers’ percentile rankings on Department Heads.

The researcher further examined significant differences between groups of leaders (Rectors, Deans, and Department Heads) and differences by other demographic characteristics (public v. private and length of tenure as leader). For this stage of analysis, the researcher used the Statistical Package for the Social Sciences (SPSS). A data coding and recording plan was created. This plan included all variables reflected in demographic survey and the five leadership practices rated by the leaders and by observers. The spreadsheet consisting of all these data served as the basis for the statistical analyses conducted to investigate the remaining hypotheses posed in the study.

The fourth research question in the study examined whether there were differences between Rectors, Deans, Department Heads. The hypothesis was tested using ANOVA. In this case, the independent variable was the type of leadership position (Rector, Dean, Department Head). The dependent variables were the mean scores on the five leadership practices for each group of leaders. The researcher calculated mean scores for each practice for each group of leaders and conducted a series of one-way ANOVAs to explore significant differences (p<.05). Further, to distinguish which group of leaders differs significantly from other groups, multiple comparison techniques were employed.

The fifth research question posed in the study examined whether there were differences between leaders’ self rated scores and the mean scores of observers on these leaders. The t-test was used to answer to this research question. The researcher calculated the mean scores of the LPI-Self and the LPI-Observer on each of the five practices for each type of leadership position.
Then, five consequent t-tests were conducted for each type of leadership position. The independent variables were the type of rating (self rating versus observers’ rating). The dependent variables were the mean scores on each of the five leadership practices. A series of one-way ANOVAs examined significant differences (p<.05). Further, to distinguish which group of leaders differed significantly from others multiple comparison techniques were employed.

The sixth research question posed in the study sought to reveal whether there are differences in leadership practices employed by leaders in public versus those in private institutions of higher education in Mongolia. Independent t-tests were conducted separately for each of the five key leadership practices. The independent variable was the type of institution (public, private). The dependent variables were the mean scores of LPI-Self and LPI-Observer on each of the five leadership practices.

The seventh research question focused on whether there were differences in leadership practices between leaders appointed to the leadership position after the advent democracy in 1996, leaders who were appointed between 1990 and 1996 when there was a coalition government, and leaders who started their tenure during the socialist time (pre-1990). The category of leaders (leaders from the democratic time, leaders from the coalition government time, leaders from the communist time) served as the independent variable. Each of the five leadership practices measured by the LPI-Self and the LPI-Observer were treated as the dependent variables. Differences were tested through t-tests.

In summary, the present study was designed to examine the leadership practices of various groups of leaders of Mongolian higher education. The methodology described in this chapter was deemed sufficient to investigate the hypotheses posed in the study.