

Cross-Cultural Considerations in Instructional Documentation: Contrasting Chinese and U.S. Home Heater Manuals

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ABSTRACT

Technical communicators need to develop certain skills to succeed in intercultural interactions. Drawing on the literature of intercultural and professional communication, this article presents a case study that examines the design features and analyzes the differences of home heater manuals from China and the U.S. By discussing the possible cultural influences, the article exemplifies a cross-cultural approach in teaching international technical communication and in creating instructional documentation across cultures.

Categories and Subject Descriptors

A.m. [MISCELLANEOUS]: Cultural factors in instructional documentation.

General Terms: Documentation

Keywords: Intercultural technical communication; cultural values; awareness approach; instructions and procedures

1. INTRODUCTION

Over the last decade, many technical communication researchers and scholars have addressed the need to teach intercultural technical communication in their technical communication classes to prepare the students for the increasing diverse workplace both in domestic and global markets [41, 16, 3, 6]. At the same time, some pointed out the inadequate and insufficient treatment and representation of intercultural technical communication in current technical communication textbooks [41, 3, 47, 2]. For example, in their recent study of two technical communication textbooks used at Texas Tech University, Barker and Matveeva [2] found that neither textbook offers simulations that bring students awareness of their own cultures nor devotes an entire chapter to intercultural communication.

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Given the situation, Thrush [41] proposed three groundbreaking approaches for technical communication instructors that help complement what textbooks do not cover. These approaches include (p. 280-281):

1. Raising students' awareness of cultural differences and their impact on business communication,
2. Introducing students to sources of information from published research in linguistics and anthropology as well as interactions with representatives from a particular culture, and
3. Providing practice in communication.

St. Amant [38] promoted these approaches with unidirectional and bidirectional exercises that require students to locate and analyze certain elements of online materials produced by other cultures (p. 293) and examine how members of different cultures present information verbally via online media (p.303). By allowing students to access materials or interact directly with individuals from other cultures, these approaches provide students with a unique cross-cultural educational experience and help them develop skills to succeed in international/cross-cultural technical and business communication.

To enrich the scope of current technical communication pedagogy and better understand cultural issues in the field, this article presents an example of using the awareness approach to study twenty authentic home heater manuals, ten produced in China [11, 26, 31, 32, 33, 34, 35, 36, 48, 49] and ten from the U.S. [1, 17, 18, 19, 20, 21, 24, 27, 28, 29] from a cross-cultural perspective. Viewing intercultural technical writing as a multi-level activity, the article first provides a two-part conceptual framework. While the first part of the framework highlights cultural values that instructors could introduce to their students and that are also relevant to a rhetorical analysis of the heater manuals, the second part implements the awareness approach suggested by Thrush [41] and advanced by St. Amant [38]. Then, the article describes the case study design and component elements of the instructions in the Chinese and U.S. heater manuals. Next follows an elaboration of the analysis criteria of five rhetorical elements: purpose, audience, content, organization of materials, and style that technical communicators will take into consideration when designing documents and a report of findings based on a comparison of the Chinese and U.S. manuals regarding the five elements. Lastly, the article discusses possible cultural factors

implied in the development of the heater manuals that could help technical communicators, instructors, students, and practitioners.

2. THE CONCEPTUAL FRAMEWORK

In exploring the heater manuals from China and the U.S., the following cultural values are relevant and useful for students before they embark on a comparison: high- versus low-context, long- versus short-term orientation, individualism versus collectivism/communitarianism, high versus low power distance, and monochronic versus synchronic time. These factors can be particularly useful because cultural differences are indeed a relevant factor to consider when addressing international audiences in any form of international communication and/or documentation [13].

In addition, the awareness approach that allows students access to information from other cultures helps raise their understanding and appreciation of cultural diversity.

2.1 High- versus Low-Context

According to Hall [12], high-context culture, the category that China has been found to belong to, tends to cater towards in-groups that have similar experience and expectations. As a result, many things are left unsaid and meanings are either conveyed in physical context or internalized in person. On the other hand, low-context culture, such as the United States has been found to belong to, prefers more explicit verbal code than many eastern countries because of their wide variety of background.

2.2 Long- versus Short-Term Orientation

This cultural value “reflects the extent to which a society has a pragmatic and future-oriented perspective” [13] (p. 491). Long-term orientation corresponds to China’s Confucian tradition that stresses maintaining harmonious interpersonal relationships by using politeness strategy [5]. The opposite is short-term oriented cultures that tend to have a conventional, historic, or short-term point of view such as the U. S.

2.3 Individual versus Collectivism/Communitarianism

This cultural dimension pertains to the degree to which individuals are integrated into groups. In a more individualistic culture such as the U.S., people tend to have loose ties with others while people in a collectivistic society like China are expected to integrate themselves into strong, cohesive in-groups with persistent loyalty [15, 43].

2.4 High versus Low Power Distance

This cultural value represents power distribution and hierarchy in a society. The higher the index, the less equally the power is distributed, or vice versa. According to Hofstede’s 1994 IBM survey [15] that examined 116,000 people’s perspectives across 50 countries and 20 languages, people in China scored much higher (80) than their counterparts in the U.S. (40), indicating a substantial difference in approaches to power distance exists between people from each of these countries.

2.5 Monochronic versus Polychronic Time

How people view time varies from one culture to another [14]. Polychronic cultures such as China value human relationships and interactions rather than arbitrary schedules and appointments while in the U.S. where monochronic cultures prevail, people stress schedules and promptness, concentrate on one thing at a time, and have an elaborate code of behavior built around promptness in meeting obligations and appointments.

2.6 Awareness/unidirectional Approach and Practice

Thrush [41] and St. Amant [38] suggested that technical communication teachers enhance their curricula by using writing samples from other cultures. Instructors first allow students to access to the knowledge base of cultural communication models and their impact on technical/business communication as described above. Students then practice identifying and analyzing cultural differences regarding variable features such as formality, relationship of writer to reader, tone, organization, diction, level of detail, and visual elements. One question students might want to ask is how a culture differs from another in incorporating rhetorical approaches in the design of their technical document. Evidence and answers to the question can only be obtained by careful comparison and analysis.

3. THE CASE STUDY

This study exemplifies a comparison and analysis of writing instructions by contrasting the approaches found in home heater manuals from two distinct cultures: China and the U.S. Two questions will be addressed in order to identify rhetorical features specific to each culture:

1. How do the heater manuals from China and the U.S. differ in their treatment of purpose, audience, content, organization of materials, and style?
2. What are possible causes of the differences?

3.1 Materials

Sample technical documents for comparison and analysis include ten home heater manuals from China and ten from the U.S., all of which accompany products sold in either shopping centers or on the Internet. The Chinese heater manuals were obtained from the shopping center because e-commerce is not yet as popular as it is in the United States, few manufacturers and/or retailers put their user manuals on the Internet, and people purchase most of their necessities in the department stores. Five of the U.S. heater manuals were selected from the store and five were located from the retailers’/manufacturers’ websites.

Technical documents, in this case heater manuals, were chosen for three reasons. First, China’s increasing economic development and business exchange with the U.S. make it possible that the Chinese will be able to purchase more American products in the future. Thus it is very likely that the U.S. technical communicators will write more technical documents for their Chinese counterparts to translate into Chinese (like the small company did for their Chinese clients in Minnesota where I interned), or that they may collaborate with Chinese technical communicators on documents for the Chinese market or they may even write directly for their Chinese customers. Similarly, many

Chinese companies will develop technical documents for U.S. readers and users. As a result, it will be helpful for the U.S. technical communicators to understand and appreciate the differences between communication styles of the Chinese culture and vice versa. The second reason behind the focus of this article is that these manuals are part of a technology common in households in China and the U.S. and are being distributed to wide and heterogeneous audiences. Lastly, the distinctiveness between Chinese and the U.S. cultures might entail meaningful comparisons; therefore, the study of the manuals would lend some help to the U.S. technical communicators who design technical documents for their Chinese audience or vice versa.

4. DESCRIPTION

4.1 The Chinese Heater Manuals

The ten Chinese manuals examined include similar elements except for some slight differences in the organization and labeling of those elements. Below I provide a descriptive overview of nine elements common to instructions for Chinese heater manuals (see Table 1).

Table 1: Elements of the Chinese and U.S. heater manuals

Chinese heater manuals	U.S. heater manuals
Product overview	Safety instructions
Specifications	Installation/Operation
Parts diagram	Cleaning and/Maintenance
Electric circuit	Specifications
Installation/Operation	Troubleshooting
Safety instructions	Warranty/Product support
Trouble shooting	
Cleaning and/maintenance	
Warranty/Product support	

Element One, Product Overview, briefly introduces the features of the particular heater. Some of the product overviews contain a welcoming note in or before them, such as “Welcome and thank you for purchasing Chrysanthemum Reflective Heater serials [...] [48]. In addition, six of the ten manuals include information about other models produced by the same manufacturer.

Element Two, Specifications, provides technical data such as voltage, frequency, power, time it takes the heaters to warm up about the particular heater the manual is intended for as well as other models produced by the company.

Element Three shows the position of the parts of the heater. Five manuals have parts diagram of other models. Graphics with callouts are used to indicate the positions of each component part of the particular model.

Element Four, Electric Circuitry Diagram, gives the wiring layout of the particular product. All the ten manuals examined contain electric circuitry diagrams, and six of the manuals examined also include electric circuitry diagrams of other models.

Element Five of Installation/Operation gives instructions of how to use the heater. Among the ten Chinese manuals, three integrate graphics with the step-by-step instructions of installation/operation.

One includes in the installation process graphics that indicate the positions of the parts. Among the three manuals that integrate graphics with step-by-step assembly instructions, one has two graphics that are followed by two short sentences explaining how to assemble the heater: 1) Place the head of the heater into the adjustable rod and 2) Fasten with screws attached to the heater [48]. The rest of the manuals only give verbal instructions without referring to the parts diagram at all.

Element Six, Safety Instructions, emphasizes precautions users should take before and when they install, operate, and store the heater(s). Other than one manual that places safety instructions before the operation, all manuals order safety instructions as the fifth or sixth element in the manual.

Element Seven, Troubleshooting, includes such information as, “If the heater does not work, users should check if the plug is inserted well into the socket,” and “For other problems, customers get assistance from the designated customer service center” [49, my translation].

Element Eight, Cleaning and/Maintenance, tells the users how to clean and store the heaters. Safety instructions concerning cleaning and storing are also included.

Element Nine, Warranty/Product Support, provides warranty information as well as lists circumstances that void warranty. Seven of the ten manuals include a table called “Warranty Form” in which users enter purchaser contact information and product information such as the model number, date of purchase, and description of the problems of the product before they send the heater to the customer service center.

4.2 The U.S. Heater Manuals

The ten U.S. heater manuals examined typically consist of six major elements (see Table 1). Nine of the 10 U.S. manuals place safety instructions at the beginning and claim that they are very “important.” Eight have specifications information, eight provide warranty and product support and seven include troubleshooting. Only one of the ten manuals starts with a welcoming message that briefly introduces the features of the heater and thus functions as a product overview. All the manuals focus only on the single particular heater. As an overview, I found that these issues are addressed below.

Element One, Important Safety Instructions, provides very detailed safety information that constitutes a large proportion of each of the manuals.

Element Two, Installation/Operation Instructions, presents step-by-step instructions for installing and/operating the heater. It also includes graphics with callouts and labels that show the positions and names of the parts.

Element Three, Cleaning/Maintenance, teaches the users how to clean and store the heaters appropriately.

Element Four gives specifications of the particular heater.

Element Five shows how to troubleshoot obstructions and handle operation failures as well as warns the users against the attempt to open and repair the heater on their own.

The last element, Warranty and Product Support, provides customer service information where manufacturer contact information can be located for technical assistance.

This type of comparison describing elements common to Chinese versus U.S. heater manuals can be considered interesting, but it does not address the important rhetorical issues surrounding the texts used in the two countries. Technical communication is rhetorical: “it is the art and craft of communicating technical information appropriately and persuasively to intended audiences in complex contexts, for particularly purposes” [6, p. 6]. Accordingly, experienced and effective technical communicators will consider far more than the content. They will identify the purpose and audience and then determine ways to adapt, organize, design, and support the information appropriately [6, p. 7].

5. ANALYSIS CRITERIA

For the purpose of this article, five important rhetorical elements will be discussed: purpose, audience, content, organization of the materials, and style because “they are the very factors” technical communicators “typically consider when planning, drafting, and revising documents” [6, p. 7].

5.1 Purpose

Technical manuals are discussed as instructional artifacts. Both Merriam-Webster Online [25] and dictionary.com [8] define a manual as an instructional book accompanying a technical device and explaining how to install and operate it. Thus the purpose of the heater manuals is to inform the audiences with operating procedures and enable them to complete the particular task [6, 23] of installing and using the product.

5.2 Audience

Given that the heaters are manufactured for the general public, the audience for the manuals might be people who do not know how to perform the task of operating a home heater and/ or those who want to perform the task better [23].

5.3 Content

The intended purpose and the expected audience influence every detail of the instructions’ content [30]. Appropriate and accurate technical information in heater manuals minimally includes installation. In addition, warnings, cautions, dangers and customer support should also be provided because of the inherent risks associated with some instructions [6].

5.4 Organization of the Materials

The way information in print or other forms of documents is organized affects the meaning that audience constructs. Patterns for organizing technical documents vary, such as alphabetical order, numeric order, chronological order, and spatial order to name a few [6]. Technical writers usually choose one or combine several patterns to help make the information more logical, accessible, and appealing to the audience.

5.5 Style

Burnett [6] suggests using straightforward information and clear language due to the widespread problem of limited literacy in the U.S. workplace and aliteracy which refers to people choosing not to read printed texts (pp. 796-797). Lennon adds the use of direct address, active voice, imperative mood and affirmative phrasing [23, pp. 554-555].

6. FINDINGS

A close examination of these factors identifies differences and similarities in how the Chinese and U.S. heater manuals are rhetorically developed (see Table 2).

Table 2. Comparison of Chinese and U.S. Heater Manuals

Aspects of heater manuals	Chinese heater manuals	U.S. heater manuals
Purpose	Advertising; providing tech data for professionals; instructing installation and operation	Instructing installation and operation; safety
Audience	Potential customers, professionals, and end users	End users
Content	Advertisement pitch, tech data, and installation, operation; troubleshooting and safety instructions	Installation, operation, troubleshooting and safety,
Organization	Numeric orders; chunks of information; varied levels of information for multiple audiences	Numeric and chronological orders; less chunk information; organized according to sequence of action
Style	Easy to understand vocabulary and syntax; verbs in second person imperative mood; contextual and indirect because of different levels of information for different audiences	Easy to understand vocabulary and syntax; verbs in second person imperative mood; direct and simple

The Chinese manuals aim at multiple goals: advertising the product(s) to potential customers, providing technical information for professionals, and guiding end users in the completion of a task. Accordingly, the Chinese heater manuals tend to include information for different audiences.

The Chinese heater manuals also share much in common with the U. S. manuals in organization and style, but they may be viewed to include indirect and contextual information from the perspective of a U.S. technical communicator and/or user. This is particularly true when advertisement-like information and technical data in the Chinese manuals are elements ordinary U.S. readers are not likely to expect to see when searching for instructions.

The U.S. heater manuals, in contrary, tend to target ordinary users as their sole audience. Thus they emphasize helping users perform the tasks of installation and operation. The information, therefore, is organized in the way that presents a procedural sequence that users follow when they perform the task, and the style of communication appears more direct and simpler so that users who

have limited knowledge about this specific technology will find the information easy to understand.

6.1 Purpose

While most people agree on the instructional nature of manuals [6, 23, 30], we may find the Chinese heater manuals attempt to meet multiple purposes: they function as advertisements, provide technical information for professionals, and give guidance to end users to complete the task of using the heaters.

First, the product overview that describes the features of the heater(s) frequently adopts the tone usually found in advertisements. For example, the Chinese manual for Gree NDR Oil-filled Radiator Heater Serials says [49], “This heater has the temperature control system, the overheat protection system [...] and is a safe and powerful heater designed to warm up the entire room effectively” (p. 1, my translation). In addition, the manual also informs the reader that the heater uses special oil which guarantees effective work with little waste and does not evaporate. Six manuals describe other models produced by the same manufacturer, even though the major elements focus on a particular heater. These manuals also use such vocabulary as “beautiful,” “convenient,” and having “the effect of decoration” or “highly effective,” “no noise, energy saving,” “safe and dependable, and suitable for households and offices” in their product overviews (my translation). With sales pitch-like language and descriptions of factual features, the Chinese manuals may attempt to impress and persuade the potential customers to purchase the products as well as help them make purchase decisions when they hesitate among various models.

All the ten manuals have a welcoming note either on the front cover or in the product overview that reads: “Thank you very much for choosing our product [48, 49],” which is obviously designed to establish a harmonious relationship between the manuals and the readers or between the products and the potential customers.

Second, the manuals provide such technical data as electric circuitry diagrams for the users—professionals of certain technical expertise who need, feel interested in, and understand the data. But this type of information might not be accessible or even meaningful for ordinary users.

Lastly, the heater manuals provide procedural and safety instructions that guide the end users to fulfill the tasks of installing/assembling, operating, and cleaning/maintaining the product.

Opposite to the Chinese manuals that aim at realizing multiple goals, the U.S. heater manuals tend to emphasize the single task of helping ordinary users install and operate the heaters, warn them against potential risks and dangers, and troubleshoot possible problems.

6.2 Audience

The intended audience decides the scope of the intended purposes. For example, Chinese heater manuals tend to address different audiences, from potential customers and professionals to ordinary users. As mentioned earlier, all of the ten Chinese manuals include a welcoming note and advertising elements that attempt to impress potential readers positively, initiate a relationship, and persuade them to take purchasing actions. The

manuals also view professionals as their audience, those who have technical background and have the need for technical data. Ordinary users are the third audience who by following the installation/operation and safety instructions will complete the task of using the product without committing physical injury to themselves and others. The U.S. manuals, on the contrary, have a more homogeneous and intended audience, aiming at helping ordinary users to perform the task of using the product. They make fewer attempts at appealing more technical readers.

6.3 Content

The diverse audiences determine different content in the Chinese manuals: the readers find feature information for potential customers, technical data for professionals, and procedural and safety instructions for ordinary users. In the U.S. heater manuals, readers are provided with instructions to assemble and operate the product safely.

6.4 Organization of the Materials

The Chinese and U.S. heater manuals share much in common in organization. Combining multiple conventional patterns in the documents, they both adopt numeric order as their major patterns in listing safety instructions and installation/operation steps. They both chunk information in short paragraphs under sub-headings.

6.5 Style

Both the Chinese and U.S. heater manuals use simple words, active voice, and verbs in imperative mood where the subject is understood to be the second person *you* in the procedural descriptions, which is a surprising conflict to what Warren [46] believes to be primarily a Western practice. However, if the criteria to evaluate the effectiveness of user manuals are based on whether they provide effective instructions for installing and operating a technical device as mentioned earlier in this paper, the Chinese manuals might be considered to contain irrelevant and contextual information because they tend to address the needs of more audiences than just ordinary users. For example, the advertisement-like product overview may effectively solicit purchasing actions from potential customers, the technical data may be important to people of technical expertise, but they could be of less or no use for the ordinary users.

7. DISCUSSION

The description and analysis of the Chinese and U.S. heater manuals indicate that the manuals correspond to the different rhetorical perspectives of the two cultures (see Table 3).

7.1 High- versus Low-Context

Evidence in the Chinese heater manuals indicates China’s high-context culture. High-contextual cultures tend to have more ties between family and people. As a result, some information may be less explicit and messages are sometimes included in the physical context rather than expressly demonstrated [12]. So U. S. technical communicators and/or audiences may find it less relevant when they read “family must help children, elder people, or invalids in case accident happens” in the safety instructions [34, my translation]. Another example of Chinese heaters manuals providing contextual information is the loose integration between graphics and texts. All of ten Chinese heater manuals set apart

parts diagrams from assembly and operations; some of the visuals are not even labeled or referred to in the operation/installation process. The idea may be that by familiarizing with the parts, combining with background knowledge, and using common sense, the users should be able to perform the task or solve the problem. In regard to how visuals are used in technical documents, researchers [22, 9, 45, 4] believe that it reflects cultural influence. In high-context cultures, people tend to share the same knowledge of the world, attitudes, feelings, and values. Therefore, writers rely on the readers to fill in the context for much of the information [45, 9, 4]. The Chinese way of using visuals in the heater manuals may suggest this cultural practice because technical communicators do not burden the reader with too much detail precisely spelled out.

Table 3. Cultural Differences as Reflected in the Heater Manuals

Cultural dimensions	Chinese heater manuals	U.S. heater manuals
High/low context	Implicit and contextual information	Explicit and task-oriented
Long/short relationship	Relationship oriented	Task-based, short term-oriented
Individualism/collectivism	Group interest	Individual achievement
High/low power distance	Hierarchy based on status	Equality between users
Monochronic/Polychronic time	Multiple tasks at the same time	Tasks in sequential order

People in low-context cultures such as the U.S. tend to share less background knowledge of the world, attitudes, feelings, or values. As a result, information for audiences in this cultural context is supposed to be spelled out [12]. The U.S. heater manuals' approach of detailed safety instructions and close integration of parts diagrams with operation steps well indicates this cultural influence.

7.2 Long- versus Short-Term Orientation

Greatly influenced by Confucianism that emphasizes human relationship, Chinese cultures tend to be long-term oriented and believe that using politeness strategies [5] to establish relationships helps achieve results [44, 10, 39, 40, 37, 7]. The Chinese manuals using a welcoming note indicate this approach to impacting potential customers as well as those who have purchased the product and will read the manual. The welcoming note at least demonstrates the manufacturer's politeness and respect for the audiences even if it might not convince the readers into purchasing the product, but politeness will no doubt leave a positive impression on the readers.

In short-term oriented cultures, such as the U.S., on the other hand, people do not tend to view relationships as a priority

because they prefer results and consider results more significant than the means used to achieve those ends [44, 46]. In addition, the result-based culture will identify goals and then work out strategies to achieve them [44]. This may explain why the U.S. heater manuals begin with safety instructions to prevent potential legal risks and procedural instruction of using the heaters straightforwardly without wasting their space on relationship building and ad pitches or even any information that would appear contextual and indirect for the users.

7.3 Individual versus Collectivism/Communitarianism

In collectivist cultures, group interest prioritizes the individual need and goals [15, 46, 43]. This may account for the reason why the Chinese heater manuals include a much wider range of audiences than the U.S. ones; the manuals here serve as texts of technology literacy that provide a learning opportunity for the entire community—potential buyers, professionals, and ordinary users. The U.S. culture, as an obvious model of individualism, advocates individual values and freedom, thus their manuals stress more individual achievements for anyone who uses the technology regardless to their background.

7.4 High versus Low Power Distance

The organization of the Chinese heater manuals reveals a hierarchical aspect attached to them although they share much in organizing materials effectively for target audiences. The materials are organized for particular groups of audiences according to their social status: first for the potential customers, an unknown amount of population that may mean more profit, then for professionals who have a certain extent of technical knowledge, and lastly for the ordinary users, people of less knowledge of heater technology. This is not unexpected for a society in which hierarchical relationship prevails. Manufacturers and/or retailers probably rank the potential customers as the most important audience because of the possible profit and thus economic power from them if this group of people is convinced. In addition, in the Chinese society, people who have professional knowledge are likely to be more respected and will gain more power in the community than ordinary users who are less informed about technology.

This approach of ranking audiences according to their status is not found in U.S. manuals that aim at ordinary users regardless of their technical expertise—*everybody* is at the same level.

7.5 Monochronic versus Polychronic Time

The multi-level information for different audience in the Chinese heater manuals may also correspond to the culture's attitude toward time. Researchers [14, 44, 46, 16, 42] agree that in high-context and collectivist cultures, people use time polychronically: time is an open-ended resource which is not restrained; context sets the pace and rhythm. In this culture, time is "characterized as simultaneous and concurrent" [16, p. 81], and people do multiple things in parallel. For example, a person might have an appointment with several people and also answer the phone at the same time [42]. As polychronic time is dynamic, several transactions may be carried out at the same time. This may explain why the Chinese heater manuals are

developed to meet different purposes and the needs of different audiences at the same time.

In the U.S. culture, people usually follow a sequential and linear pattern when using time [16]. For example, people tend to do one job or meet one person or a group of persons at a time. An appointment means that a person will concentrate on one thing at a time rather than on multiple tasks [43, 14]. Because people in this culture view time monochronically, they tend to read just about the command and jump on tasks rather than wasting time on information they do not need. The well-designed product, according to the views of this culture, should allow immediate and intuitive usage [46] as indicated by U.S. heater manuals that focus on the single task of helping the users use the heater.

8. CONCLUSION

The examination of the five rhetorical elements of the Chinese and the U.S. home heater manuals reveals several differences, differences that could have their roots in their different cultural backgrounds. These findings are particularly relevant and helpful for the U.S. technical communicators who develop technical manuals for the Chinese market or vice versa. Understanding the cultural differences also helps technical communicators make more informed decisions in international exchanges. Moreover, other forms of technical communication may also share some of the same characteristics evident in the heater manuals. For example, further research might address the following questions: how if at all do modern Chinese business communication documents such as contracts and reports reflect cultural influences? If there are cultural differences in these documents, how do cultural influences affect content, organization of materials, and styles? What is the impact of such differences for intercultural exchanges? Answers to these questions would help the U.S. and Chinese technical communicators communicate more effectively with their counterparts, colleagues, and customers.

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