A descriptive case study examined cultural traits that are critical to instructional design and that most affect the delivery of instruction and the learning of instructional content designed and delivered by one culture for other cultures in an industrial environment. Data were collected using surveys, structured interviews, the critical incident technique, and documentation analysis. Respondents included 29 students from 6 countries, 20 instructors, 1 educational technologist, and 2 administrators. The most critical conditions were cultural values and language factors. The most effective methods were micro-strategies, management strategies, and delivery strategies. The most important traits brought to training by international students were value differences, language, and vocabulary difficulty. The most frequently mentioned value differences were about education and authority. The other two top ranked differences were motivation and group orientation. Language difficulty limited achievement of course objectives. Training designed for international students should ameliorate cultural and language factors through appropriate instructional strategies. (NLA)
A CULTURAL PARABLE

Once upon a time a small village in the Amazon jungle was swept by a devastating disease. The disease killed many key village figures, including the Shaman and his apprentice who had attended many of the dying villagers.

When the disease passed, the remaining village elders gathered to determine what to do about not having a Shaman. It was decided that the village would ask a neighboring village if they would train a promising young man from the first village. It had been many years since the villages had made personal contact, but they had communicated often using the jungle drum system. When the second village heard of the plight of their neighbor, they agreed that the young man could study for a year under their head Shaman.

The young man felt honored to be chosen, and started out through the jungle the next morning. He wound through the jungle, over a small mountain, and across a river. He arrived in the neighboring village late that day and was welcomed to the Shaman’s hut. As a year is a very short time, and there was much to learn, the training began immediately.

It wasn’t long before the young man was thoroughly confused. The years of separation had allowed the villages’ language to evolve into divergent dialects, and customs also varied greatly. When the Shaman tried to explain something, the young man did not understand. In frustration, the Shaman drew a picture with a stick in the dust, the young man understood immediately, and responded appropriately. When the Shaman praised him, the young man felt he would die of shame. By the evening meal of the next day the young man was embarrassed, frustrated, and despite a good night sleep, extremely fatigued. He knew that his village was counting on him, and in the past he had always learned quickly.

The Shaman was also at wits end and began to think that the young man was contrary and not very bright, despite what the jungle drums had promised. And yet, he felt obligated by his village’s agreement to teach this young man to be a good Shaman. What was the Shaman and his new apprentice to do under these circumstances?

THE PROBLEM

Have you ever experienced communication difficulties in cross-cultural situations like the Shaman and his apprentice? The changing demographics of our workforce are making this an increasingly typical scenario in training and on the job. In addition, lawsuits have been filed for inadequate training due to language or cultural barriers. Yet all too often, students from various cultures are receiving instruction that is developed and delivered by other cultures without conscious attention to critical cultural traits and their effects on the design or delivery. As a result, the training appears to be less effective than it is with domestic audiences.

Since instruction is most frequently designed under time and resource constraints, it is important to know where we can best invest our resources to maximize the effectiveness and efficiency of training. This article describes the results of a case study which examined cultural traits most critical to the design of instruction for use by other cultures. In addition, the study examined the traits which most critically affected the delivery of instruction and the learning of instructional content designed and delivered by one culture for other cultures in an industrial environment.
WHAT THE LITERATURE SUGGESTS

Literature was examined for major conclusions in the literature relevant to conditions and methods of instruction across cultures, their evidence and implications for this inquiry.

Cultural factors discussed included culture shock, and cross-cultural communication skills or barriers caused by ethnocentrism or stereotyping. Cultural values which may affect the development or delivery of instruction include orientation toward the individual or collective, power distance, uncertainty avoidance, and orientation toward doing versus being (Adler, 1986). Consequences of cultural values which may affect instruction include expectations disparity between students and instructors, differences in expected leadership styles, motivations and job structure which may affect prerequisite skills and necessary course objectives (Hostede, 1983). Language factors include second language discomfort and difficulty with vocabulary, grammar and cognitive style. Reading may take longer in the second language, although comprehension of written language may be better than comprehension of spoken language (MacNamara, 1967). Students may have more difficulty comprehending than producing either the written or spoken second language. They may have difficulty translating terminology, and may have more difficulty with abstract than concrete words in the second language. This can cause problems grasping ideas and concepts and may lead to the fatigue, frustration and embarrassment referred to as second-language discomfort (Adler & Kiggundu, 1975). Finally, students may be unaccustomed to the learning or cognitive style assumed in the course design and delivery (Hall, 1976).

Non-verbal factors revealed in the literature include discomfort as a result of unfamiliar eye-contact or proxemic behaviors, or confusion as a result of unfamiliar gestures (Hall, 1966).

Many of the condition factors listed above will influence the design and delivery of instruction. The design activities and strategies which may be affected include front-end analysis, organizational, delivery or management strategies and evaluation. Organizational strategies which are intended to influence the internal processes of learning include both micro-strategies (those specified for organizing instruction on a single idea) and macro-strategies (those specified for organizing more than one idea). These condition and method factors found in the literature were used as the research propositions which guided the data collection for the case study.

METHODS

A descriptive case study approach was taken and data was collected using surveys, structured interviews, the critical incident technique and documentation analysis. Respondents included twenty-nine students from six countries: Korea, Taiwan, the Netherlands, Australia, the Dominican Republic and Great Britain. In addition, twenty instructors, one educational technologist and two administrators provided data, and forty-three documents were analyzed. Five technical training courses held June 1 through August 15, 1989 in Taiwan, Dublin, Ohio and Lisle, Illinois were examined.

FINDINGS

What did I find? That the most critical conditions (represented by the "weather conditions" cloud - see Figure 1) are cultural values and language factors. Methods are critical to the degree that they ameliorate or exacerbate conditions. The most critical methods are:

- Micro-strategies (Micro man),
- Management strategies (Man),
- Delivery strategies (grandma delivering a box of cookies).
The design of the methods rests on the foundation of a front-end analysis.

Sometimes having design team members from diverse cultures is both a blessing and a bother. The chart in Figure 2 shows that language is the biggest problem I found. However, since our design teams are not typically culturally diverse, this is a very small sample.

Conditions Critically Influencing the Design of Instruction

For conditions critically influencing the delivery of instruction, the chart in Figure 3 shows that language and culture are more critical than other factors, especially if you add the two language-related factors together. If you speak a foreign language, and have been to a foreign country and tried to function, you
know that this can be a factor that overrides all other factors. If you have difficulty speaking and understanding, culture aside, functioning is very difficult. One of the cultural value factors that influenced the instruction included values about education and authority resulting in Asian students' practice of asking questions outside of class, or not at all. The two other top ranked differences were motivation and group orientation.

**Conditions Critically Influencing the Delivery of Instruction**

![Bar chart showing frequency reported for different conditions influencing the delivery of instruction.]

![Bar chart showing frequency reported for different instructional design activities influenced by conditions.]

Micro-strategies, instructional management strategies and delivery strategies were the instructional design activities found to be affected the most by conditions (see Figure 4). Micro-strategies, as it is being used it here, refers to strategies that address each of Gagne's instructional events. Management strategies refer to those strategies for making decisions on when to use which organizational or delivery-strategy components during the instructional process. Examples: schedules, individualization schemes. Delivery strategies refers to media, teachers, textbooks.

**Instructional Design Activities (Methods) Most Influenced by Conditions**

![Bar chart showing frequency reported for different instructional design activities influenced by conditions.]

**FIGURE 3**

**FIGURE 4**
Because Micro-strategies were mentioned several times by almost all sources, they were broken down to see what specifically was most affected. As you see in Figure 5, learning guidance was mentioned most often followed by eliciting performance, practice and enhancing retention. The first four steps in the instructional process did not show much affect.

![Micro-Strategies Most Influenced by Conditions](image)

FIGURE 5

A set of recommendations were developed based on the study to accommodate cultural and language barriers to communication in training. The set of recommendations, (shown in Figures 6 through 8) as does all training design, attempt to answer the following questions:

- What do we put in the training?
- How should we design the training?
- How do we manage the course delivery?
- How do we deliver the course delivery?
- How do we know if the training was successful?

What we put in the training must be determined by the front-end analysis. Here, I should emphasize that we cannot safely make generalizations across cultures. We should conduct an analysis for each group - consider them as another target population with unique needs and characteristics and we need to make fewer assumptions about those characteristics. A useful method for conducting the analysis is to have someone from the target culture on the design team.
METHOD OR DESIGN ACTIVITY

Front-End Analysis or Formative Evaluation

- Conduct one for each audience/culture
- Include international members on design team
- Make fewer assumptions about audience
- Analyze:
  - Language competency
  - Value differences
  - Expectations
  - Cultural adjustment problems
  - Motivation
- Conduct by mail or
- Train in-country personnel (such as sales personnel) to conduct front-end analyses
- Provide adequate lead time and resources for front-end analysis

Objectives

- Adequate front-end analysis insures appropriate objectives

FIGURE 6

We sometimes do not even attend to micro-strategies adequately for domestic courses - we leave them up to the developers because of time and resource pressures. But these are critical for trainees from other cultures.

Most of the recommendations fall in the area of instructional, or micro-strategies (see Figure 7). There seems to be little apparent difference between domestic and international students in the areas of activating motivation, informing learners of objectives, directing attention and recalling prerequisites. What works for domestic students appear to work across cultures. In other words there was no evidence to the contrary.

Presenting the stimulus is where we get into critical differences. Stimulus presentation can exacerbate or ameliorate language difficulty. Verbal or written stimulus must be as clear as possible. Visuals and demonstrations are one of your most powerful tools to overcome language difficulty. In one example, one of our instructors was showing our hands-on equipment laboratory to a Chinese visitor who spoke little English. In order to ask a technical question, he drew a block diagram on a marker board, and pointed to the area of concern. The instructor completed the picture, which answered the visitor's question. I want to make it clear that the audiences we were dealing with are educated and considered literate in at least two languages. Nevertheless, language was by far considered the worst problem by instructors and students, so attention to the careful design of instructional strategies for presenting stimulus should be a good investment. In some cross-cultural training situations, language problems are made worse by illiteracy.
METHOD OR DESIGN ACTIVITY

Instructional Strategies

Activating motivation
Informing of objectives
Directing attention
Recalling prerequisites

Stimulus presentation (verbal or written)
- Use simple language
- Slow pace of delivery
- Provide glossaries of terms/acronyms
- Provide industry terminology handbooks
- Avoid idioms, jargon
- Write unfamiliar terms on board
- Encourage questions

Stimulus presentation (visual)
- Use visuals liberally
- Use models and demonstrations

Learning guidance
- Examples:
  - Make examples specific, relevant
  - Use metric units

Enhancing retention
- Reiterate concepts several ways
- Review, summarize frequently
- Translate summaries

Practice
- Practice frequently
- Practice small chunks

Eliciting Performance
- Check comprehension:
  - Frequently
  - Through observation, and written exercises
- Ask students to explain, or demonstrate what they have learned

Providing feedback
- Avoid direct pressure
- Avoid negative feedback to an individual in front of the group

RECOMMENDATION

Little apparent difference
Use simple language
Slow pace of delivery
Provide glossaries of terms/acronyms
Provide industry terminology handbooks
Avoid idioms, jargon
Write unfamiliar terms on board
Encourage questions

Use visuals liberally
Use models and demonstrations

Examples:
- Make examples specific, relevant
- Use metric units

Reiterate concepts several ways
Review, summarize frequently
Translate summaries

Practice frequently
Practice small chunks

Check comprehension:
- Frequently
- Through observation, and written exercises
Ask students to explain, or demonstrate what they have learned

Avoid direct pressure
Avoid negative feedback to an individual in front of the group

FIGURE 5.7

On the subject of learning guidance, and particularly, examples we get into cultural issues. Examples should be relevant, specific and culturally sensitive. For instance, one instructor related a story about a group of Egyptians who attended training several years ago. One portion of the training used a videotape which showed women with short skirts. The instructors found out that the cultural issue of proper feminine attire can present a real communication barrier, so they had to devise other ways of communicating the
content of the videotape. In the areas of enhancing retention practice and feedback, we need to do what we do domestically, only more so. We need to review, repeat, summarize frequently (in the native language if possible) to enhance retention. Practice needs to be done frequently - don’t wait till the end of a five day course. Feedback, especially with groups that value group harmony (oriental, Native American) needs to be given indirectly or privately.

<table>
<thead>
<tr>
<th>METHOD OR DESIGN ACTIVITY</th>
<th>RECOMMENDATION</th>
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| Management Strategies     | • Use interpreters  
                          • Translate student materials  
                          • Give frequent breaks for reading, rest, questions, translation  
                          • Attend to “housekeeping” needs |
| Delivery Strategies       | • Avoid rushing  
                          • Avoid crowding  
                          • Use media with multiple channels  
                          • Use self-paced media (with instructor to answer questions) |
| Evaluation                | • Gain students’ trust  
                          • Observe performance over extended period  
                          • Use a variety of evaluation methods: quizzes, observation, listening to student comments |

**FIGURE 8**

In the area of management strategies (see figure 8) I found that interpreters and translators can help with a language problem. If you been to a foreign country, you might have experienced second-language discomfort which includes fatigue and embarrassment. In order to ameliorate the effects of second-language discomfort, give students frequent breaks for rest, questions and translation. Another management strategy that helps international students is to attend to housekeeping needs such as housing, transportation and other problems that can distract from learning.

For instance, last October we had a student who had broken his glasses. Because of language difficulty and unfamiliarity with the Chicago area and our insurance policies, he was having difficulty getting his glasses fixed. This, in turn, affected his ability to study. We got his glasses fixed, and he was able to go on to successfully complete his training.

In the area of delivery strategies I found that it was best to avoid situations where conditions are aggravated, such as crowding or rushing through materials. In one example, forty people were attending one class. Students had trouble seeing the visuals and hearing the instructor which aggravated their language difficulties. Smaller classes helped overcome their language problems. We found CBT to work well because students could go at their own pace. Even group-oriented cultures seemed to do well and enjoy self-paced materials. Media with multiple channels that reinforce each other may also be a factor in the success of students.
One factor which is heavily influenced by cultural factors as well as by the obvious language factors is evaluation. I believe that there is no such thing as an objective opinion, and many cultures admit this more freely than we do. Many students are concerned about the instructor or the group saving face and couch evaluations accordingly. Naturalistic methods of evaluation, such as observation, interviewing opinion leaders, and informal group feedback can be used to supplement post-course surveys and can be successful tools for evaluating training in these cases.

To summarize, the data revealed that the most critical traits brought to training by international students were value differences, language and vocabulary difficulty. The most often mentioned value differences were values about education and authority resulting in Asian students' practice of asking questions outside of class, or not at all. The two other top ranked differences were motivation and group orientation. Language difficulty was considered by both students and instructors to be the most critical factor in limiting achievement of course objectives. Most methods or instructional design activities critically interacted with language and cultural traits to the extent that they ameliorate or exacerbate cultural or language factors. Most critical were instructional micro-strategies, instructional management strategies and instructional delivery strategies. The implication of this study is that training designed for international students should ameliorate cultural and language factors through appropriate instructional strategies which are based on a front-end analysis of the specific target population.

**RELEVANCE TO THE FIELD**

This study should be of interest to businesses conducting training across cultures. This represents a significant number of businesses due to an accelerating trend toward conducting international business of all types, including transfer of technology. In addition, the *Workforce 2000* study has shown us that a growing proportion of our workforce will be immigrants and American subcultures, so an increasingly culturally heterogeneous workforce will be needing training. Since most of the student respondents were Asian, the study findings could be of specific interest to those training Asian students in terms of the practical design of instruction.

There is little empirical evidence in the literature concerning models to apply when training international students for whom English is a second language. This may be due in part to the difficulty in applying a general model of instructional design to a specific culture, or it may be due to a lack of flexibility or cultural sensitivity during the instructional design process. While various techniques or methods exist, there are no complete, integrated models for the design and delivery of instruction across cultures. The methods that do exist have not been empirically tested, so there is little information available on the relative efficiency and effectiveness of the methods, either in general or under specific cross-cultural conditions. This study provides some baseline data on the outcomes of specific methods used at the AT&T National Product Training Centers under specific cross-cultural conditions. Data derived from this study may be used in theory-building and may provide criteria from which U. S. industry executives can better plan for diverse workforces or for the training aspect of technology transfer programs.
REFERENCES


ABOUT THE AUTHOR

Jeanne Hites, Ed. D., has worked for AT&T Product Training in Lisle, Illinois for seven years. Her duties included training design, marketing, and administering to international clients taking training in the US. Jeanne has her degree from Northern Illinois University in Instructional Technology, and she is the past president of the Chicago and International chapters of NSPI.