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## **The Importance of Workplace Education for Ensuring Railway Safety**

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### 1, Introduction

At the East Japan Railway Workers' Union (JREU), we have long called for the adoption of the philosophy of "Do not blame workers but investigate causes" in order to create safer railways in Japan. A workplace environment where employees feel free to talk about the cause of problems is important, and at the same time, it is essential to have people in charge of safety at the workplace. At every train drivers' office in the JR East Company, we have a so-called *shido-tanto*, or "driving instructor" who holds a special position in the workplace and who plays an important role in improving safety for drivers.

My presentation today will deal with the important role played by these instructors.

### 2, Role of Driving Instructors

Driving instructors are stationed in every drivers' office in JR East Company, whether there are 20 drivers or more than 200. These people do not hold managerial positions, and are categorized as train drivers. They typically have many years of experience as drivers on the main line served by the office and know its conditions very well. They have good knowledge about drivers' rules and the different types of rolling stock. They drive trains themselves when there is a need for extra drivers, and so always have up-to-date information on the present condition of the lines they serve.

The duties of the driving instructor include regular monthly training and on-the-job training in the cabin. When driver apprentices are assigned to an office,

the instructor there trains them to become drivers. Furthermore, he helps and advises drivers so that they can drive with confidence. Therefore, he instructor is like an “elder brother” rather than a supervisor for drivers, and he needs to be a reliable and mature person.

### 3, The Difference between Managers and Driving Instructors

There are clear differences between managers and driving instructors. Managers function as supervisors of train drivers, and try to manage them by evaluating their daily work, but it is very difficult to find differences in the performance of drivers. As a result, managers tend to base their evaluations on tasks outside of their main work, such as gaining qualifications.

Drivers cannot consult the manager about problems at work because the manager evaluates them based on their motivation to achieve the extra tasks rather than the performance of their daily work. As a result, the drivers cannot ask about concerns.

On the other hand, driving instructors and drivers are fellow workers with the same position in the workplace, even if they are more experienced. They rely on each other even if their experience is different. Since driving instructors do not evaluate drivers, the drivers can ask them about problems and consult them frankly. And if an instructor doesn't have a good relationship with his fellow drivers, he cannot accomplish his task. Creating good relationships is one of the important roles he plays.

Drivers also feel a difference between driving instructors and managers when they are being watched in the cabin. The drivers feel that the manager is testing their abilities in order to rank them, but that the driving instructor is educating them. Thus, from the drivers' point of view, driving instructors are different from managers.

### 4, Drivers' opinions of driving instructors

We sent out a questionnaire to drivers in JR East workplaces asking for their opinions of driving instructors and managers. We received replies from 600 drivers.

Drivers described the driving instructor as “A person that I can talk to about anything” first, followed by “A person whom I can consult about work problems,” “A key person in the workplace,” and “The most experienced person.” We can say that drivers trust the driving instructors.

When asked, “What is your ideal driving instructor?” drivers answered, “A person whom I can consult with in a friendly way,” “A person who stands up for the drivers,” and “A person who teaches the drivers based on his experience.” This seems to show that through their experience, drivers are happy to receive the instructor’s guidance.”

On the other hand, 86% of drivers of JR East recognized a difference in “driving instructors” between JR East and other JR companies. They stated that “JR East instructors give instructions from a driver’s perspective,” “They are fellow workers,” and “I can talk to them about anything, both officially and privately.” Drivers rely on the instructors in their workplaces.

However, they saw the driving instructors of other JR company as managers who do not respect drivers. “They blame drivers for their faults and do not stand up for them,” or “They are only trying to manage personnel.”

When drivers were asked their views of managers, the overwhelming response was “People who manage and evaluate drivers,” followed by “People who are transferred every two to three years,” and “People that drivers can consult.” From the viewpoint of drivers, managers were concerned with personnel matters so that drivers felt they were controlled by managers. There was only a small gap between those who answered “I feel free to consult with managers” and “I don’t feel free to consult with managers.” This may show a generational gap, but it does demonstrate that typically, drivers who are in charge of ensuring safe operation do not want to drive when they are uncertain about safety, and want to have an adviser who is not responsible for evaluating them.

## 5, Driving Instructors in Another JR Company

Driving instructors also exist in JR West, but there are problems there that are different from those at JR East. In 2000, JR West introduced a new personnel

management and wage system, which replaced the seniority system with a promotion system based on merit and ability. In order to receive promotions, personnel must pass exams. The general manager at a workplace can give a “good” employee a special permission to take the promotion exam faster than others.

The position of “driving instructor” was changed to “instruction section chief.” Those holding the new position were managers who could not drive trains on the line covered by the office. As managers are usually transferred every two to three years, they are not experts on the line they serve or the types of rolling stock used. Therefore, the monthly drill directed by the instruction section chief has become a paper test, in which knowledge of the manual is the most important thing. If, during the drill, a driver asks a question that the chief cannot answer, the chief warns him not to disturb the drill or threatens him, saying “Why you don’t know such an easy thing,” because the chief himself doesn’t understand practical matters but only the manual. As a result, the drivers no longer ask questions of the chief, fearing that it will be reflected in their evaluations. They cannot discuss concerns even with former classmates or fellow workers, because they are rivals in the company. Thus, they have to work even though they have concerns. Thus the new personnel management and wage system” has hurt morale in the workplace, produced suspicions among employees, and diluted the “safety first” thinking with the introduction of competition.

## 6, Lessons from the Derailment on the Fukuchiyama Line

On 25 April 2005, a train derailed on the Fukuchiyama line, which was operated by JR West, killing 107 people and injuring 555. Train drivers across Japan were shocked because the reliability and safety of railway was suddenly shown to be a myth. The Aircraft and Railway Accident Investigation Commission (ARAIC) concluded that the personnel management system of JR West called *nikkin-kyouiku*, or in other words “re-education for mistakes,” was one of the causes of the accident. The driver had already been involved in an incident before the fatal accident, and had asked his conductor to make a false report to the company to hide the fact that he had overrun a platform. He was fearful about the

punishment. As a result, while trying to make up for the delay, he entered a curve over the speed limit, and the train derailed.

*Nikken-kyouiku* is not a proper method for preventing accidents or incidents. It serves more as a warning to others. The introduction of the new personnel management and wage system has led to such a corporate culture. Competition between employees breaks the culture of “Safety First” and the manual drills by instructor section chiefs have led to the nurturing of drivers who are not independent and who are fearful of punishment.

#### 7, Dismissal of Union Leaders of the State Railway Union of Thailand (SRUT) Seeking Safety

In the single month of October 2009, there were two derailments and one fatal accident in Thailand. The accident led to seven deaths and 88 injuries. The driver of the train involved in the accident had had one rest day in the previous 30 days, and the “dead man’s switch” in the locomotive was not working. Unbelievably, only 20% of locomotives were even equipped with such a fundamental piece of safety equipment, according to the union.

The union demanded that the State Railway of Thailand (SRT) implement safety measures and not put responsibility on workers, and decided that drivers should refuse to drive unsafe locomotives in order to protect passengers and themselves. However, in October 2009, SRT dismissed six union branch leaders who were calling for safety.

On 28 July 2011, the Central Labour Court ruled in favor of an appeal by the managers of SRT allowing the dismissal of another seven leaders of SRUT to go ahead. It also granted SRT damages of 15 million THB (504,355 USD), which it had demanded against the seven leaders. The ruling stated, “After the fatal accident in 2009, railway operations restarted and continued even though the safety system did not work well. Accidents no longer occurred because the train drivers were driving carefully. Thus, the safety equipment and systems that the union demanded were supplementary but not essential.”

We were shocked by this statement, which essentially argued that safety equipment in trains is only supplementary and that drivers are supposed to prevent accidents by driving very carefully. If this is true, then the driver must shoulder all responsibility for safety. This unbelievable ruling will make drivers fear punishment.

#### 8. Introduction of a New Personnel Management and Wage System at JR East

JR East Company has proposed a new personnel management and wage system, and is now negotiating with the union. In the proposal, the current position of driving instructor will be split into two new positions: *toumu-shoku*, who assist the management and receive position benefits, and *shumu-shoku* who do not support the management and receive no benefits. However, in the future, it seems likely that the position of *shumu-shoku* will be merged into *toumu-shoku*.

Drivers and instructors have built a relationship of trust over a long time in order to pass down driving skills. However, if instructors assist the management, drivers may hesitate to ask about problems, worries or question, as is seen with drivers in other JR companies. As a result, the safety culture will change and the good relationship between drivers and instructors will collapse.

The new personnel management and wage system will reward those who makes efforts. That is understandable, but unreasonable competition and evaluations may lead to a breakup of the relationship of trust in drivers' workplaces.

I believe that unreasonable competition is not needed in our workplaces. Within a system of competition, each worker anticipates the failure of others and hopes to win promotion at the expense of his fellow workers. If drivers always worry about their own evaluation rather than safety, they will never talk about their failures in the workplace, and this will lead to the collapse of the JREU safety philosophy, "Do not blame workers but investigate causes". A culture of safety where people can tell the truth without fear is the most important element of maintaining railway safety.

## 9. Driving Instructors Should Be Trained in the Workplace

Recently, there have been a series of accidents at JR East involving shunting in a rolling stock maintenance yard. The company decided to assign a driving instructor to the maintenance center in order to educate workers to prevent further accidents. In the past, a center manager had been in charge of safety training but he did not know the yard premises well because he had been transferred from another worksite.

However, the new instructor assigned by the company had not been trained there. The company thought that he would be able to carry out his duties wherever he had been trained. Of course, he was able to educate drivers in general but could not lead them as he did not have good knowledge about the yard, such as the peculiar dangers and shunting density, from experience. He could not improve the safety level using his general knowledge as an instructor. Doing so would require long experience at the same workplace to earn the respect of fellow workers.

## 10. Lessons from the Great Disaster in East Japan

At 14:40 on 11 March 2011, the most powerful earthquake ever recorded in Japanese history, with a magnitude of 9.1, struck the Tohoku and Kanto area, and a huge tsunami devastated the coastal area of East Japan, leading to the total destruction of the railway infrastructure. By 1 August, according to police reports, 15,648 people had died, 4,979 were missing and 91,552 were living as evacuees. It will take a long time to restore the devastated area, as the Fukushima Daiichi Nuclear Power Plant accident has still not been contained.

This disaster struck trains operated by JR East. One train derailed in the shape of the letter L, showing us the enormous force of the tsunami. However, neither passengers nor crew were killed, and all the evacuated cars had been locked to prevent rolling. The crews acted calmly and their daily training resulted in a good outcome.

In the face of the disaster, the importance of the instructors was recognized. I would like to introduce an action manual for earthquakes and tsunami in JR East for the Yamada line that operates along the coast. It begins by presenting “basic

knowledge,” saying, “As most of the stations on the Yamada line were built in low-lying areas, you should remember that the stations are vulnerable to disasters.” It also refers to “crews reaction”, saying “The driver should evacuate to high ground with the passengers but depending on the location where the train is halted,” and includes a hazardous map showing places where the train driver should not halt his train when a disaster occurs. Making this map was possible because driving instructors at the workplace know the line and geographical features well, and can point out hazardous places.

The manual stated that if a driver heard a tsunami alert from the loudspeaker of a local government, he could instruct passengers to evacuate at his own initiative. In most JR East manuals, the driver is instructed to follow “directions and orders from the company” but on the Yamada line he is supposed to “act according to his own decision”. In fact, the driving instructors tell drivers about geographical features and hazardous places on the line when accompanying a driver in the cabin.

## 11, Conclusion

JR East is facing a radical generational change. At the same time, the company intends to introduce a new personnel management and wage system. If driving instructors become assistants of the management like at other JR companies, the positive relationship between drivers and instructors at the workplace will collapse. It is wrong to see the position of instructor as a passing point toward management. One decade has passed since the privatization of JNR, and accidents have decreased dramatically. I think this is due to the fact the driving instructors have led the safety training during the generational change. Manuals are important, but drivers encounter a wide variety of problems as a matter of fact and must make quick decisions based on accumulated experience, skill and insight.

The driving instructors in JR East educate drivers with the ability to make judgments. They create a good relationship with drivers as they can talk frankly, not from the viewpoint of management. What we need in the drivers’ office to maintain safety is not competition but trust. The succession of skills is always a

concrete problem, and our task is to train drivers who can make independent judgments.