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Assessing the Effectiveness of DVD-Based

Open Learning Simulations

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No. 3423

March 2007

National Institute of Development Administration
Final Report: Type 1 Research Grant

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March 13, 2007

Research Project Title:
Assessing the Effectiveness of DVD-Based Open Learning Simulations

Objectives of the Study:

1. Determine The Effectiveness Of Using DVD-Based Opening Learning Simulations As The Next Step In The Case Study Instructional Model
2. Determine The Feasibility Of Collaborative Problem-Solving Training Through The Use Of DVD-Based Open Learning Simulations.
3. Determine The Feasibility Of Using DVD-Based Opening Learning Simulations For Soft Skill Training, Especially In The Area Of HRD/OD

Outline and Scope of the Study:

1. The challenge is to provide the end user with a service, which is both "desired" such as entertaining video, but also useful in a broader sense. By taking advantage of DVD technologies built-in scripting language, branching based video simulations can be constructed to challenge learners to over come obstacles to leadership, management or any other soft skill we wish to present them. Additionally, MTV style information-commercials or "informercials" will provide key tips, which the user will need in order to solve the simulation's challenge. This visual format takes advantage of current game-based learning theory and provides students access to realistic challenges in the form of simulations that have both short and long term consequences. An additional benefit of using movie scenarios over written cases in Thailand can be found in the writings of Chareonwongsak (Chareonwongsak 2002), who points out that the Thai's learning culture is one of a listening, watching and

talking with a tendency to avoid reading especially "deep" materials. In addition to the DVD based simulation games and "informerials" the DVD format allows for the storage and retrieval of standard computer files such as Adobe PDF files for print documents, Macromedia's Flash MX files for interactive tutorials and platform specific applications. This added feature allows preexisting educational/informational materials to be placed on the DVD without the cost of an additional CD-ROM. This material can be accessed via any DVD player on a Windows, Macintosh or Linux computer.

2. Often management teams are overtaxed due to the lack of strategic planning experience in dealing with unique events such as organizational core value change. While the use of live role-play exercises are often used to train such teams their cost and extensive planning restricts their regular as well as widespread use. Fortunately, there is an effective low-cost alternative. Using strategic game style simulations teams can gain experience in managing the variety of services required to effectively resolve this type of large-scale situation. The training model uses a 3D approach to promote active engagement in the learning process. The Discussion, Dialogue and Debate (3D) model ensures all members of the training contribute to the learning environment and remain in an active rather than passive mode. Using a technique from Robert Slavin's (Slavin 1995) cooperative learning model, learners elaborate their understanding of how their team's action plan compares to the simulation's "best practice" solution. The following detailed description is how each of the four phases is carried out during a typical training session involving upper management.

Methodology:

Phase I

Four (4) person teams will watch video simulations based on information gathered through interviews, questionnaires and focus groups during training needs analysis. Teams then determine to "act" or "not act" at the simulations decision point. If they do not act then they move to the feedback movie showing the outcome of their inaction. Each team will be required to discuss the simulation situation prior to making a choice to take no action. This can be

a simple "yes/no" vote or they may choose to dialogue for group consensus. If the team decide to take action they are presented an opportunity to discuss a plan of action, record the steps and then once they have formulated their own action plan view the DVD to see the choice the expert suggests or "best practice". This component is similar to Richard (Duke and Greenblat 1979) frame game – Impasse, At-Issue and Conceptual Mapping were the player compares their outcome choice against that of an expert and either agree or if they disagree provide a rationale for their decision.

Phase II

Once they view the expert choices provided the teams break into dyads (2 person learning teams) and perform a review of the simulation case, the group action plan and experts' best practice recommendation. Each dyad will then select which outcome choice they support and note their choice on an Action Card.

Phase III

The teams then reform and each of the two dyads present their Action Cards to the opposite team. The choices are recorded on the tracking sheet. Teams may wish to discuss or debate the merits of each dyads choice as it relates to the experts best practice recommendation. Teams then watch the outcome of the expert's best practice choice they select. Feedback is provided on the basis of the choice. This video sets up the next decision choice for the team to make. Teams track their choices versus the expert's solutions for use during the debriefing session when teams will be called upon to explain their rationale for their action plans.

Phase IV

Once the teams have completed the entire simulation a facilitator will direct all the teams through an open debriefing session. During the debriefing the facilitator moves through the decision points then asks groups their outcome choice. At this point teams that belived their action plans were a more appropriate choice then the best practice choice are asked to explain their rationale behind their decision. All members who selected alternative

solutions are given the opportunity to expose the rest of the teams to different was of problem solutions. Finally, teams are asked to draft final recommendations on the simulation outcome as a whole. This summary will include justifications of alternative selections and an elaboration of the problem-solving method used during the training.
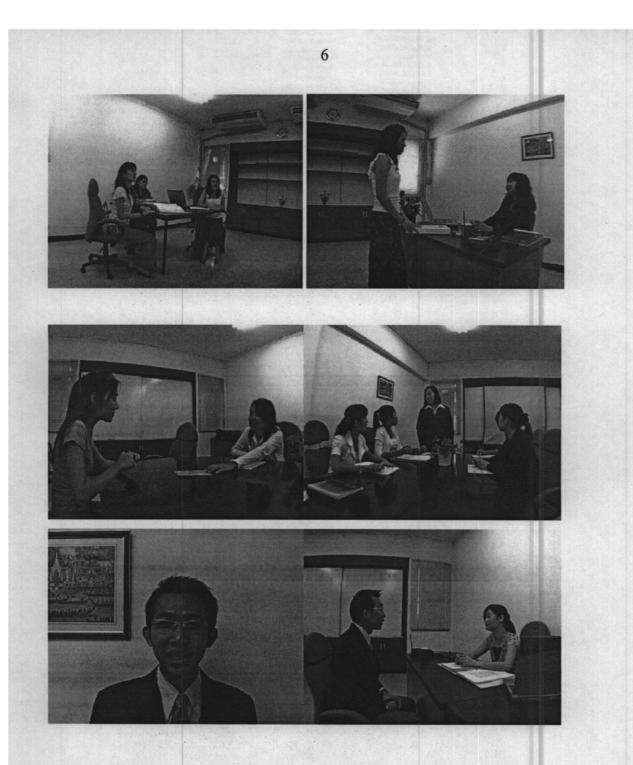
Usefulness of the Study:

1. Due to the relative high cost of computer technology in Thailand it is unreasonable to expect SMEs to establish computer labs in their business for employees to gain additional training. The cost of a DVD player and TV is well within even the smallest companies training budget and in fact may already be part of the SMEs inventory.

2. With no standard for the variety of Windows operating system in government offices it is often impossible to create a training software package that will run on Windows 98 and Windows XP. The budget is often not available to upgrade all computers when a new operating system is released thereby creating incompatible systems in one department not to mention a entire government facility. Through the use of DVD training one standard is used and when moneys are made available the DVD will be compatible with the built-in DVD players of Windows computers make their useable life even longer as employees can take the training at their desks with and office partner.

3. Probably the most significant use of this study will be the establishment of a low cost, easy to use and highly effective model for the motivation and engagement of employee training. This new model can be used for a vast array of trainings and take into account the Thai peoples natural preference to look, listen and talk as opposed to the western preference of reading.

Sample Population and Methodology Employed During Study:

This study use current NIDA HRD/AT students involved the faculties Masters program as the test population. Limitation of the population includes: their non-random selection, due to program population size all students were used. Testing methodology was open-end allowing students to stop during the activity and resume at a later time. This was felt to provide greater freedom to learners who could not spend a complete day engaged in this activity.

Research Tool Construction:

NIDA AT Training and Development special program students constructed a series of video scenarios based on real incidents from their work place. Fellow student assisted in the production of each of the 24 scenarios used in this research. Prior to the video shooting students presented their scenario to the class for a review session. The goal was to ensure that the cases were believable and that their story lines were easy to follow. The presentations involved the viewing of storyboards and detail explanation of the scenario. Once the presentation was complete the floor was open for a discussion session to evaluate the scenarios content and the manner in which it was presented to the viewer via the DVD video. Students were then asked to revise their scenario scripts based on the feedback received during the open discussion session. Next in the production of the DVD tool was the video shooting of each scenario. Due to the lack of proper studio facilities at NIDA students were forced to convert the HRD meeting room into a mini studio for the production of the scenarios. This posed lighting and sound quality concerns, which needed to be overcome prior to the final production of each video scenario. Postproduction editing was performed by the research project director using a Macintosh Powerbook G4 laptop and iMovie / iDVD software by Apple Computer. The 24 scenarios were then outputted to a DVD recordable disc for the classroom-testing phase. Examples of screen shots from some of the scenarios created are shown below.

The layout and detail of each video scene was selected to best show the faces and body posture of the actors. Unlike text-based cases, video based stories can show the depth of emotions on an actors face or in their body posture. In order to capture the close-ups of actor's faces, the production team used a 24mm wide-angle lens. In addition to the close-up lens a boom microphone was used to get the highest possible fidelity sound reproduction and to eliminate the ambient traffic sound coming from Seri Thai road located two meters outside the HRD building.

Classroom Testing:

The final step in this study was the classroom testing of the scenarios in a manner described in the studies methodology section. To this end the researcher presented each scenario to members of NIDA's AT730 Personnel Research Development. After the presentation was completed large group debriefing was conducted with members of the class to solicit feedback about the quality of the materials presented. Areas of concern included the ability to properly interpret the message the author intended, ease of viewing the scenario (was the sound and image quality acceptable), and overall enjoyment of the video scenario case analysis format. Additional comments regarding format style as well as how the viewer felt this product would be accepted by fellow co-workers were obtained. The time to perform the four phase method used in this study varied between 20 to 40 minutes depending on the topic presented. Content that was emotionally charged such as sexual harassment tended to take longer then materials that were less controversial.

Findings:

This action based research study was conducted to identify if through the use of DVD scenario training methods learners could gain useful process skills and real-world understanding of management techniques in a more enjoyable format then current text based case studies. Based on open-ended discussions with learners during post-training debrief sessions this research has confirmed the hypothesis that Thai learners prefer a learning style based on visual oriented presentation of problems followed by an intense discussion/ problem activity. Participants pointed out their preference for this active learning style and its usefulness in promoting critical thinking skills. In addition, learners enjoyed the way the content for discussion was presented (video versus text) as it provided visual clues to the over-all environment in which the scenario took place. One student added that this would have been difficult to do in a text only case or scenario. Given the current state of technology available to any consumer it is not unreasonable to see these visually based case studies being presented in work places throughout Thailand. Due to the platform used to present the cases i.e. DVD video as well as the time involved, the possibility exists to conduct these types of case studies over lunch breaks of even as afternoon brainstorming sessions. Scenario participants reaffirmed their choice of a well-constructed video scenario over the text-based case study unanimously. However, concern was raised as

to the time involved in the production of the scenario and its accompanying best practice video. Participants suggested that if a team of volunteers were used they could produce the materials for others in exchange for a reduction of their normal workload hours. It was felt that given the speed to which a scenario could be scripted and videoed by an experienced group would justify the redirection of company recourses.

<div align="center">Conclusions:</div>

This research provides Thai trainers, managers and human resource professionals with a unique tool to engage their learners while avoiding the traditional lecture mode used in so many learning environments throughout Thailand. In an attempt to inform members of the HR, education and IT fields the project director presented papers dealing with this research and its potential at two international conferences in Thailand. Flexible *Learning: The Digital Engine Of The Knowledge Economy* (Johnson 2006) was presented at the eLearning AP 2006 International Conference on eLearning for Knowledge-Based Society in Bangkok and focused on this researches use of the affordable DVD eLearning technology as opposed to the current computer-internet based model so often discussed. The talked highlighted the low production cost and fast turn around time involved in DVD scenario creation. Also mentioned was how this learning format fit into Thai learners preferred learning style, visual/audio versus deep reading. The second paper dealing with this research's findings was *Bridging the Literacy Gap through Visual Learning Technologies* (Johnson 2006) which was presented at the International Conference on Poverty Alleviation Through Lifelong Learning Strategy Chulalongkorn University. With this presentation the focus turned to the DVD scenarios use as a skill enhancement tool, which would allow Thailand's impoverished members to retool their skills to meet the global economy, which Thailand is a key South East Asian player. Both presentations were warmly accepted as a means to promote Thai's preferred learning style while at the same time providing them with deep content materials. As one conference attendee put it "we don't need to dumb down the subject matter to keep from boring our learners".

Future Research Recommendations:

Future research should look at the use of this training model as a supplement to text readings and in conjunction with case-based analysis used in both trainings and many graduate school programs. Additional research could also be directed at individual use over the WWW or in conjunction with online team members.

Assessing the Effectiveness of DVD-Based Open Learning Simulations was partially funded by a grant from the National Institute of Development Administration (NIDA) for a period of 4 months in 2006 and was carried out at the NIDA Bangkok campus Bangkok, Thailand.

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