
The use of role-play as an assessment strategy in health education for trainee primary school teachers – a case study

Uso del juego ocupacional como una estrategia de evaluación en la educación en salud para la preparación de profesores de escuela primaria - un estudio de caso

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Abstract

A study was conducted on the use of role-play to assess students' performance in the health education module of the pre-service primary teacher-training programme in Mauritius. The trainees worked in groups of 5 to 6 to perform a role-play on the theme 'Healthy Eating' with the remainder acting as audience. The use of role-play as an assessment strategy was evaluated using a performance checklist, students' log books and tutor's observations. Findings revealed that students and the tutor perceived the role-play as a better alternative to traditional paper-pencil assessment methods. The main strengths were the emphasis on creativity, personal development, and the opportunity to reveal hidden talents. Some drawbacks were also noted, namely the lack of time and opportunities to work together, the lack of cooperation and dedication of some group members, clash of ideas and the language to use for enactment. This study includes some useful information that will facilitate the use of role-play as an assessment strategy that provides a more complete and authentic picture of students' performance in health education.

Key words: role-play, assessment, health education, teacher-training.

Resumen

Este estudio fue dirigido en el uso del juego ocupacional para evaluar la actuación de estudiantes en el módulo de educación de salud del programa de licenciatura de escuela primaria en Mauricio. Los aprendices trabajaron en grupos de 5 a 6, para llevar a cabo un juego ocupacional sobre el tema "Comida saludable", el resto actuó como audiencia. El uso del juego ocupacional como una estrategia de valoración fue evaluado usando una lista de verificación de rendimiento, las observaciones en libretas de estudiantes y observaciones del profesor. Los resultados mostraron que los estudiantes y el profesor percibían el juego ocupacional como una mejor alternativa a los métodos de evaluación tradicionales. Las ventajas principales de este método eran el énfasis en la creatividad, el desarrollo personal, y la oportunidad de revelar talentos escondidos de estudiantes. Algunas desventajas también eran notadas, concretamente la falta de tiempo y de oportunidades de trabajar en conjunto, la falta de cooperación y la dedicación de algunos miembros de grupo, el conflicto de las ideas y dificultades de lenguaje. Este estudio añade la información útil que facilitará el uso del juego ocupacional como una estrategia de evaluación que provee

los detalles completos y auténticos del rendimiento de los estudiantes de educación en salud.

Palabras clave: juego ocupacional, evaluación, educación en salud, preparación de profesores.

INTRODUCTION

Health education is a compulsory module of the pre-service primary teacher-training programme in Mauritius and has been since 2001. The aim of the module is to foster health literacy amongst primary school teachers. Health literacy has been defined as 'the capacity of individuals to obtain, interpret, and understand basic health information and services and the competence to use such information and services in ways which enhance health' (Health Strategies Incorporation, 2002). As such the focus is not only on the acquisition of knowledge, but also on the development of specific health skills such as accessing information, advocacy, analyzing internal and external influences, self-management, interpersonal communication skills, and decision-making skills. The development of such skills is a particularly challenging task for the tutor as well as for the students, and it requires the identification of appropriate contexts, topics, teaching and learning strategies (TURNER, 2000).

Moreover, assessment strategies need to be carefully selected in order to provide a more complete and authentic picture of students' performance. In the field of health education, performance assessment is considered as particularly appropriate because it shifts the emphasis from knowing health facts to developing health skills (Vermont Department of Education, 2002). It also encourages teaching strategies that stimulate higher-order thinking and practical application of knowledge and skills, and allows educators to view student growth in a rich and dynamic way. Performance assessment is considered as a relatively new strategy to measure students' knowledge and skills related to health education in the classroom (TOUCANEd, 2004).

The health education module of the teacher-training programme has traditionally been assessed through short constructed-response items. Although constructed-response items are considered as a performance-based assessment method, they failed to assess health skills such as advocacy, interpersonal communication, decision-making and analysis of internal and external influences. Hence, role-play was introduced as a new assessment method to provide a more complete and authentic picture of students' performance in health education.

Role-play has been described as a type of "reality practice" or an activity that allows participants to immerse themselves in a learning environment by acting out the role of a character in a specified situation (BURTON, 1997; FRIEDMAN, 2004). In health education, role-plays can be particularly useful in assessing skills such as advocacy, decision-making (including problem-solving and conflict resolution), and interpersonal communication skills (Vermont Department of Education, 2002; Health Strategies Incorporation, 2002; SIMMONEAUX, 2001). According to ORME and SALMON (2002), such dramatization method is also appropriate for assessing knowledge and skills related to sensitive health issues such as personal safety and sex education in a safe and stimulating way.

Besides providing a safe and stimulating environment to mimic a potentially difficult situation, role-play does not favour rote learning unlike standardized tests (MICHEL, 1998; BURTON, 1997). In fact a study by DeNEVE and HEEPOVER (1997) showed that students remembered information from role-play better than from didactic approaches. SIMMONEAUX (2001) also recognized role-play as more effective in knowledge construction because students are placed in situations related to their context and environment. A role-play as an assessment task fits the constructivist model of learning, laying emphasis on the relationships between concepts, relating new concepts and ideas to schemas already present in the brain, and developing applications of new knowledge to events and problems that students may encounter in a real-life context (TROWBRIDGE, BYBEE and POWER, 2000). While there is much literature on the use of role-play as a teaching strategy, there seems to be few studies focusing on the use of role-play as an innovative assessment strategy. Hence, a study was conducted on the use of role-play as a method of assessment.

METHODOLOGY

Implementation of the role-play task

The target group for the role-play consisted of trainee primary school teachers (n = 26) enrolled for a health education module. The chosen theme for the role-play was 'Healthy Eating'. The class was divided into five groups of 5-6 members. Each group was given a text and scenario depict-

ing a real-life situation related to healthy eating (see figure 1 for a few examples). Students were communicated the objectives of the task and given instructions to guide them prior to acting out the role-play. All students have participated in role-plays before so that they were already familiar with the specific elements of the role-play process. Nevertheless, their attention was drawn to the fact that there was no single straightforward solution because the situations and scenarios could be interpreted in different ways. This is a particularly desirable attribute of an assessment task in constructivist learning environments; it does not foster the "one-right-answer mentality" that tends to encourage rote learning rather than deep understanding (SEGGERS, DOCHY and DE CORTE, 1999).

Figure 1
Selected examples of role-play scenarios on 'Healthy Eating'

1. Theme: Healthy eating
It is Saturday night at home. Your family is just about to watch a video film you have all been looking forward to seeing. Someone suggests that it would be a good idea to share a snack while watching the film.
Points to consider:
 - Snack(s) you would usually share with your family in this situation;
 - The reasons for choosing this snack;
 - Is it a healthy snack?
 - Are there healthier snack alternatives?
2. Theme: Healthy eating
You and your colleagues have been busy helping out to organize Sports Day at school. You have all had a great time participating in the activity, and are now a somewhat tired and thirsty. All of you decide to buy a drink from the school canteen.
Points to consider:
 - The drink you and your colleagues would usually have in this situation.
 - Why you chose that drink.
 - Was the choice a healthy one?
 - Is there a healthier alternative? If so, how would you get your friends to choose a healthier drink.
3. Theme: Healthy Eating
It is recess time. You and your best friend rush to the school canteen to buy some snacks. You end up buying yoghurt which was kept outside on a rack. Your friend decides to get some pancakes. The canteen owner picks up 3 pancakes with his bare hands from a plate left uncovered and hand them over, while your friend gives him the required amount of money. Soon, some friends join you, but refuse to share the foods you just bought from the canteen.
Points to consider:
 - The reason(s) for your friends' refusal.
 - The conditions in which the foods bought were being sold.
 - Food hygiene practices of the food vendor.

Action(s) that can be taken at your level to ensure that foods at the school canteen are safe to eat.

Group members had to identify and analyze a range of points of view. Three weeks later, each group participated in a 10-15 minutes role-play in front of their peers. Through completion of the task students were expected to demonstrate the following:

- an understanding of specific health concepts and ideas;
- application of specific health concepts and ideas to a real-life situation;
- capacity to argue a point of view relevant to a given role;
- use of assertive communication strategies and techniques appropriate to context; and
- control of both verbal and non-verbal language.

The assessment criteria for the role-play were finalized following inputs from the students. An analytic rubric was developed and circulated to all students (see table 1). While working on the role-play each student kept a log book detailing efforts made by each member, the quantity and quality of the contribution, the degree of co-operation within the group and what they liked and disliked about the role-play task, especially as compared to the traditional paper-and-pencil assessment methods. The log books, thus, were to provide data for peer assessment and perceptions about the given task. They were submitted one week after the role-play presentation. During the presentation acted out by members of one group, members from the

other groups noted down the arguments that they found the most persuasive and compelling.

Table 1
Analytic rubric for Role-Play

Criteria	Very good	Good	Fair	Poor
1. Realism of enactment. 2. Dialogues and arguments drawn creatively from existing literature and valid sources of information. 3. Effectiveness of players' actions. 4. Sequence of actions. 5. Adherence to time limit. 6. Control of verbal and non-verbal language. 7. Individual contribution towards conception and implementation of the role-play (based on log book). 8. Quality of Information in Log Book (including own perceptions about role play).				

Evaluating the role-play task

Various methods were selected to evaluate the use of the role-play as an assessment strategy, focusing on the process as well as on the product. A performance assessment checklist was used to evaluate the appropriateness of the task, and modifications were brought prior to giving the assessment task to the students. The checklist as shown in table 2 was developed based on the criteria of good performance assessment described by Vermont Department of Education (2002) and MUELLER (2003). Students' log books were used to provide qualitative information on students' perceptions about the task, and also to assess group interaction skills. Observations were also made and recorded by the tutor during the enactment based on the criteria set in the rubrics. Qualitative data from the log books were categorized and analyzed for emergent themes.

Table 2
Checklist used to evaluate appropriateness of role-play task

Criteria	Yes	No
1. Requires evaluation and synthesis of knowledge and skills. 2. Emphasizes higher order thinking skills. 3. Indicates clearly what the students are asked to do, but not how to do it. 4. Is at appropriate reading level. 5. Has assessment criteria that are clear to students and teacher. 6. Is engaging and relevant to student. 7. Links to ongoing instruction. 8. Makes provision for feedback to students. 9. Reflects real-world situations. 10. Emphasizes use of available skills and knowledge in relevant problem contexts. 11. Is safe and feasible. 12. Uses group work to stimulate thinking, but individual performance skills are observable/measurable. 13. Encourages divergent thinking and thoughtful risk taking. 14. Reveals student's abilities in many dimensions – oral, visual, kinetic, etc....		

FINDINGS AND DISCUSSION

Student's perceptions

Analysis of the data from students' log books revealed that the role-play was positively accepted by the majority of students. Responses given by students to express their appreciation for the role-play were as follows:

- there is more emphasis on creativity and personal development as compared to traditional methods of assessment e.g., class tests and written assignments (n = 12);
- can reveal hidden talents through script writing and enactment (n = 10);
- helps to overcome shyness (n = 8);
- helps to build a positive relationship with group members and develop respect for others (n = 14);
- good team spirit prevailed in the group (n = 6);
- role-play as an assessment is less stressful than class tests and exams or written assignments (n = 8);
- promotes communication and listening skills (n=6);
- this strategy should be encouraged in all modules (n = 6);
- does not encourage rote learning, and helps to better retain what we had learnt about healthy eating (n = 8);
- enjoyed working in a group (n = 16);
- helps to prepare us to face unknown situations (n = 4);
- freedom to express our views (n = 4);
- ready acceptance of the ideas and points of view of others (n = 6).

There were several positive aspects revealed by the students about the role-play task. The most salient ones were the emphasis on creativity and personal development (including overcoming shyness, communication and listening skills), opportunity to reveal hidden talents, strengthen relationships with group members and develop respect for others. Students also reported enjoying working in a group, the good team spirit that prevailed within the group, and having to perform under less stressful conditions. JOYCE, WAIT and SHOWERS (1992) reported that role-plays tend to promote empathy, interpersonal problem-solving techniques and reflective analysis of personal values and behaviours. Group work has also been found to foster the construction of meaningful understanding (YIP, 2001).

The positive perceptions of the role-play can also be explained by the fact that it supported the expression of traditional and alternative behaviours, the expression of strong feelings, respect for the feeling of others, the exploration of alternative solutions to problems, and non-evaluative acceptance of student responses (BURTON, 1997). It is also interesting to note that students perceived the role-play task as less stressful than paper-and-pencil assessment strategies, and facilitating the construction of knowledge about healthy eating. As reported by students and a study by SEGERS, DOCHY and DE CORTE, (1999), role-play does not encourage rote learning, but rather fosters deep conceptual understanding.

Although, the role-play task was generally perceived as a better alternative to traditional forms of assessment, students also noted some weak points, especially related to the dynamics of group work and their preferred learning style. Responses given by students to express the weaknesses and drawbacks of the task were as follows:

- requires cooperation of all team members (n = 5);
- all team members need to be dedicated (n = 6);
- takes much time and preparation (n = 7);
- felt uneasy during the enactment – prefer written work (n = 3);
- all team members were not free at the same time to sit down and work together (n = 7);
- there was some confusion regarding the language to be used for the enactment. (n = 6);
- the dominating role of some group members during group work sessions (n = 2);
- prefer to work individually (n = 3);
- clash of ideas during script writing (n = 5).

The main problems students encountered were lack of time and opportunities to work together, the lack of cooperation and dedication of some members, clash of ideas and confusion regarding the language to use for enactment. English is the medium of instruction, but students' mother tongue is Creole. As the language to be used was not clearly communicated to students, students felt unsure about which language to use. One group used Creole only, and the other two groups used a combination of Creole and English depending on the roles. Students were not penalized for using only Creole since the use of English was not clearly indicated in the task description and in the rubric. Moreover, what was more important in this task was the assessment of students' understanding of concepts and ideas, application of knowledge, capacity to argue a point of view, assertive communication skills and control of verbal and non-verbal language rather than the medium of expression. Another problem that can arise in a role-play is that a student may be assigned a role that he/she is unfamiliar with or feels uneasy, as reported by three students (MICHEL, 1998; SIMMONEAUX, 2001; FEINSTEIN, MANN and CORSUN, 2002). Last but not least, one needs to

acknowledge that all students do not have the same learning preferences – (;) while the majority of students in the class enjoyed working in groups, few preferred to work individually.

Tutor's Observations

The role-plays were all of a good standard; students demonstrated a sound knowledge of key health concepts and ideas, could apply them to the given situation, and expressed themselves well. Through their enactment they demonstrated mastery of health skills such as advocacy, decision-making, conflict resolution, problem-solving and negotiation. Students also showed much enthusiasm and passion during the preparation stage, and this was reflected in their enactment.

The success of the role-play enactment also depends on the roles of the tutor (BURTON, 1997). Hence, during the preparation stages, the tutor acted as a facilitator, adopting a non-judgmental approach but nonetheless being supportive to students' queries. During the enactment, the tutor again had to be non-judgmental and objective in the assessment, and also be receptive to 'hidden' messages.

CONCLUSION

Although the study was conducted among a small group of trainee teachers, findings indicate that the role-play was a useful assessment tool in health education. The role-play allowed the assessment of health skills that could not be assessed by traditional paper-and-pencil methods of assessment. It also proved to be a non-threatening and creative assessment strategy for students. Although its preparation involves much time for both the tutor and the students, its use as an assessment strategy in Health Education and other teacher-training modules should be encouraged. Moreover, to ensure the success of the role-play as an assessment tool, consideration should be given to the following:

- stating clearly the language to be used for the enactment;
- checking with students that they are at ease and familiar with the role they are to enact;
- involving observers to a greater extent during enactment by getting them to analyze and evaluate the enactment of their peers rather than simply jotting down the persuasive and compelling arguments; and
- get students to think of other life situations involving the same issues or situations, following the enactment.

BIBLIOGRAPHY

BURTON, L.D., Hitting the issues head on: using role-play in Science Education, *Paper presented at the Annual Meeting of the National Science Teacher's Association*, New Orleans, LA, 1997.

DeNEVE, K.M. and HEEPOVER, M.J., Role-play simulations: the assessment of an active learning technique and comparison with traditional

lectures, *Innovative Higher Education*, 21, 231-241, 1997.

FEINSTEIN, A.H., MANN, S. and CORSUN D.L., Charting the experiential territory: clarifying definitions and uses of computer simulation, games and role-play, *Journal of Management Development*, 21, [10], 732-744, 2002.

FRIEDMAN, S., Learning to make more effective decisions: changing beliefs as a prelude to action, *The Learning Organization*, 11, [2], 110-128, 2004.

Health Strategies Incorporation, *Health literacy*, viewed 24 August 2004, <<http://www.healthteacher.com/teachersupports/literacy.asp>>, 2002.

JOYCE, B., WEIL M. and SHOWERS B., *Models of Teaching*, Allyn and Bacon, Boston, USA, 1992.

MICHEL, G., Role-playing rhetoric of science pedagogy and the study of medical ethics, *Paper presented at the Annual Meeting of the National Communication Association*, New York, NY, Nov 20-24, 1998.

MUELLER, J., *Authentic assessment toolbox: authentic tasks*, viewed 5 August 2004, <<http://www.noctrl.edu/>>, 2003.

ORME, J. and SALMON, D., Child protection drama in primary school – an effective educational approach?, *Health Education*, 102, [4], 187-195, 2002.

SEGGERS, M., DOCHY, F. and DE CORTE, E., Assessment practices and students' knowledge profiles in a problem-based curriculum, *Learning Environment Research*, 2, 191-213, 1999.

SIMMONEAUX, L., Role-play or debate to promote students' argumentation and justification on an issue in animal transgenesis, *International Journal of Science Education*, 23, [9], 903-929, 2001.

TOUCANED, *Assessing health literacy: assessment framework*, viewed 24 August 2004, <http://www.toucaned.com/main/assessment/assess_framework.htm>, 2004.

TROWBRIDGE, L.W., BYBEE, R.W. and POWELL, J.C., *Teaching secondary school science: strategies for developing scientific literacy*, Prentice Hall, New Jersey, USA, 2000.

TURNER, S., Health Education is unavoidable, in Sorenson P (Ed.), *Issues in Science Teaching*, Routledge Falmer, London, UK, 2000.

VAN DER MUELEN, R., A role-playing exercise for development and international economic courses, *Journal of Economic Education*, Summer 1996, 217-223, 1996.

Vermont Department of Education, *Vermont Health Education guidelines for curriculum and assessment*, viewed 19 October 2004, <http://www.state.vt.us/educ/new/ppdfdoc/pgm_coorhealth/curriculum_guide>, 2002.

YIP, D.Y., Developing a better understanding of the process of fat absorption, *Australian Science Teachers Journal*, 47, [2], 25-30, 2001.

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