

Learning reflexively from a health promotion professional development program in Canada

MARIE-CLAUDE TREMBLAY^{1,2*}, LUCIE RICHARD^{2,3},
ASTRID BROUSSELLE^{4,5} and NICOLE BEAUDET⁶

¹Department of Social and Preventive Medicine, Faculty of Medicine, University of Montreal, Montreal, QC, Canada, ²University of Montreal Public Health Research Institute (IRSPUM; Institut de recherche en santé publique de l'Université de Montréal), Montreal, QC, Canada, ³Faculty of Nursing, University of Montreal, Montreal, QC, Canada, ⁴Department of Community Health Sciences, Faculty of Medicine and Health Sciences, University of Sherbrooke, Sherbrooke, Canada, ⁵Charles LeMoyne Hospital Research Centre, Longueuil, QC, Canada and ⁶Public Health Directorate for Montreal, Montreal Health and Social Services Agency, Montreal, QC, Canada

*Corresponding author. E-mail: marie-claude.tremblay.7@umontreal.ca

SUMMARY

In recent decades, reflexivity has received much attention in the professional education and training literature, especially in the public health and health promotion fields. Despite general agreement on the importance of reflexivity, there appears to be no consensus on how to assess reflexivity or to conceptualize the different forms developed among professionals and participants of training programs. This paper presents an analysis of the reflexivity outcomes of the Health Promotion Laboratory, an innovative professional development program aimed at supporting practice changes among health professionals by fostering competency development and reflexivity. More specifically, this paper explores the difference between two levels of reflexivity (formative and critical) and highlights some implications of each for practice. Data were collected through qualitative interviews

with participants from two intervention sites. Results showed that involvement in the Health Promotion Laboratory prompted many participants to modify their vision of their practice and professional role, indicating an impact on reflexivity. In many cases, new understandings seem to have played a formative function in enabling participants to improve their practice and their role as health promoters. The reflective process also served a critical function culminating in a social and moral understanding of the impacts on society of the professionals' practices and roles. This type of outcome is greatly desired in health promotion, given the social justice and equity concerns of this field of practice. By redefining the theoretical concept of reflexivity on two levels and discussing their impacts on practice, this study supports the usefulness of both levels of reflexivity.

Key words: critical reflection; continuing education; health promoters; reflexivity

INTRODUCTION

In recent decades, reflexivity has received much attention in the professional development literature of many fields. In fact, reflexivity appears crucial for improving professionals' education and practice because it enables professionals to integrate theory and practice, to transform their

experience into new learning and to acquire new skills by building integrated knowledge bases (Mezirow, 1990; Jarvis, 1992; Wong *et al.*, 1995; Mann *et al.*, 2009). Despite general agreement on its importance for professional development in health promotion, there appears to be no consensus on how to assess either reflexivity itself or the level of reflexivity developed (Wong *et al.*, 1995;

Kember *et al.*, 1999; Mann *et al.*, 2009). Better understanding of reflexivity and its different forms, as well as of their consequences for practice in health promotion, could have important impacts for the design of educational strategies and professional development programs that build on reflective thinking (Teekman, 2000; Mann *et al.*, 2009).

In 2009, to facilitate the integration of health promotion into the practices of public health professionals, a team from the Public Health Directorate for Montreal (PHDM) (*Direction de la santé publique de Montréal*, Quebec, Canada) launched an innovative professional development program, the HPL. This project is intended to support professionals in health and social services centres [*Centres de santé et de services sociaux* (CSSS)] in the development of health promotion interventions. One specific objective of the program is to foster reflexivity among participants. Building on qualitative interviews with participants ($n = 20$) from two intervention sites, this study aims to analyze the reflexivity outcomes of the HPL and discuss some implications for health promotion practice. Based on a synthesis of literature on reflexivity, the analysis explores reflexivity in the form of new understandings of practice, professional role and work environment developed by participants in the program. The analysis also distinguishes between two levels of reflexivity developed among participants (formative and critical) and highlights some implications of each for practice. Formative reflexivity allows the professional to make sense of concrete situations and to identify knowledge applicable in practice, with the aim of improving practice. Critical reflexivity questions the premises of practice as well as power, social and moral issues that underlie the practice, which is a crucial issue for health promotion given the social justice and equity concerns of this field.

LITERATURE REVIEW

What is reflexivity?

Because reflection is an important component of professionals' education and training programs in many disciplines (Mann *et al.*, 2009), the literature devoted to it spans several academic areas—such as education, nursing and psychology—and proposes different definitions and usages of related terms (Bolam and Chamberlain, 2003;

Issitt, 2003; Mann *et al.*, 2009). Reflective practice, a concept mostly articulated by Schön (Schön, 1984), is a kind of reflection applied in a professional context and upon practice. Reflective practice goes further than reflection by implying that reflection is not only a mental event but has to be reinvested in action to address complex problems or situations of practice (Bleakley, 1999). Reflexivity, for its part, is most often conceived as being closely linked with reflective practice, since both are associated with approaches to improve professional practice, and the terms are sometimes used interchangeably (D'Cruz *et al.*, 2007; Delany and Watkin, 2009). Although there is no single definition of reflexivity, in this paper it is conceived as an intentional intellectual activity in which individuals explore or examine a situation, an issue or a particular object on the basis of their past experiences to develop new understandings that will ultimately influence their actions (Dewey, 1910; Mezirow, 1981; Boud *et al.*, 1985; Mezirow, 1990; Mezirow, 1991; Kember *et al.*, 1999; Kember, 2001; Delany and Watkin, 2009; Mann *et al.*, 2009). In a professional context, reflexivity challenges the practices, roles, beliefs and values of practitioners and promotes learning and redevelopment of practice (Bolam and Chamberlain, 2003).

Iterative and vertical dimensions of reflexivity

Several models and theories have tried to define and conceptualize reflexivity. According to Mann *et al.* (Mann *et al.*, 2009), these can be organized around two dimensions: (i) an *iterative* dimension, emphasizing the renewing process of reflexivity; and (ii) a *vertical* dimension, relating to different levels of reflection on experience. Among the models defining reflexivity as an iterative process, Schön's reflective practitioner model is certainly one of the most well-known. Schön saw reflective learning as a spiralling process in which the practitioner goes through specific phases: *assessment*, formulating a first understanding of a new and problematic situation; *action*, testing this understanding and its implications in the field; and *reassessment*, revisiting the terms of the problem, looking at it critically and proposing a new theory and its practical consequences (Schön, 1984, 1987). Models organized around a *vertical* dimension focus on different levels of reflection on experience (Mann *et al.*, 2009). For instance, Mezirow's model depicts different levels, each involving greater reflective

activity and demonstrating a progression: habitual action, thoughtful action and understanding, reflection and critical reflection (Mezirow, 1991). There is, in fact, an abundance of 'vertical models' conceptualizing different levels of reflection [e.g. (Boud et al., 1985; Dewey, 1910; Mezirow, 1991)]. These can be summarized broadly into two levels that many authors have more or less formally identified, which involve improvement of practice or its critical examination.

Two broad levels of reflection

According to Teekman (Teekman, 2000), who explored reflective thinking in nursing practice, the literature highlights two types of reflective exercises: (i) those aimed at refining and improving practices (*reflective thinking for learning*) and (ii) those used to question the underlying dynamics and premises of practice (*reflective thinking for critical inquiry*). The first, which is more pragmatic, is an effective strategy to make sense of concrete situations and to develop practical knowledge and skills applicable in professional situations (Teekman, 2000). The second is more interrogative and consists in questioning the power and political dynamics that underlie the practice, as well as moral and ethical issues linked to practice (Teekman, 2000).

This distinction is similar to that made by Bolam and Chamberlain (Bolam and Chamberlain, 2003), inspired by Danziger (Danziger, 1997), which differentiates between *light* and *dark reflexivity* in the context of health psychology practice. Light reflexivity involves acknowledging and reflecting on the practitioner's role and considering the influence of the practitioner's values and personal characteristics on his practice. This type of reflexivity works to improve practices. Dark reflexivity, on the other hand, involves a deeper level of reflection on practice and on its fundamental premises, raising questions regarding the interests they serve, as well as 'consideration of the power, politics and ethics underlying practice' [(Bolam and Chamberlain, 2003), p. 217].

In Argyris' distinction between *single-loop* and *double-loop learning* (Argyris and Schön, 1978; Argyris, 1982), we again see these two types of reflection. Single-loop learning refers to situations where, in their practice, professionals detect errors in their knowledge, their understanding of a situation, the information they possess, etc. This kind of reflection allows them to identify these errors, correct them and solve practical

problems. 'The single-loop level adopts means-end thinking' [(Hong and Choi, 2011), p. 699]; at this level, goals, values and frameworks are taken for granted and the focus is on techniques and improvement of techniques (Usher and Bryant, 1989). Double-loop learning, on the other hand, involves more critical reflection and is concerned with questioning goals, criteria and frameworks. Professionals demonstrating this kind of learning detect and correct errors in ways that involve modifying assumptions, values and espoused theories relative to their practice (Argyris and Schön, 1978; Argyris, 1982; Usher and Bryant, 1989; Cunliffe, 2004; Hong and Choi, 2011). In interpreting Argyris' and Schön's work, some authors (Greenwood, 1998) consider that the double-loop level includes reflection on social structures and their redesign by practices: 'double-loop learning therefore involves reflection on values and norms and, by implication, the social structures which were instrumental in their development and which render them meaningful' [(Greenwood, 1998), p. 1049].

Two broad conceptions of reflection and reflexivity emerge from this review, serving different purposes. The first, which could be called *formative reflexivity*, consists in an examination of the professional's experiences and technical skills in order to make sense of concrete situations and to identify knowledge applicable in practice. This kind of reflexivity is used to improve practice within a system that is taken for granted and unchallenged. The second type of reflexivity, which could be called *critical reflexivity*, questions assumptions, power and moral issues underlying practice 'in relation to its contribution to a just and humane society' [(Issitt, 2003), p. 177]. This kind of reflexivity is aimed at raising the professional's awareness and critical conscience from a broad social system perspective. Critical reflexivity operates mainly from the perspective of critical theory, which is aimed at freeing people by deconstructing hierarchies of knowledge and power through critical analysis of knowledge and practice (Guba, 1990; Guba and Lincoln, 1994; Delany and Watkin, 2009). This study builds on these two categories to assess the levels of reflexivity developed among participants in the program.

THE PROGRAM

In 2009, the PHDM designed an innovative professional development program, the HPL. (For a

more detailed description of the intervention and its approach, see Tremblay *et al.*, 2013.) This project was conceived in response to concerns expressed after the 2004 healthcare reform in Quebec, which attributed new public health responsibilities, including a health promotion mandate, to health and social services centres (CSSSs) (Beaudet *et al.*, 2011). The HPL, combining competencies development, reflective practice and team learning, brings health professionals and managers together around a specific health promotion issue. The purpose of the HPL is to support, innovatively and flexibly, the multi-disciplinary CSSS teams working on particular issues (e.g. organizational health, student retention), so that they can improve and develop new health promotion practices. The program's development was based on a review of the literature in the fields of organizational and professional change, as well as on the tacit and experiential knowledge of the public health professionals who were its architects. The program's promoters targeted four specific objectives:

- (i) build new ways to address local public health issues by means of health promotion interventions;
- (ii) develop a reflective practice;
- (iii) broaden professional competencies;
- (iv) initiate organizational changes that facilitate the adoption of new health promotion practices.

Concretely, each HPL team consists of ~10 participants from different backgrounds who have voluntarily enrolled in the HPL. The program's operational approach involves 3-h team meetings every 2 weeks for 2–3 years. The meetings take place during the participants' normal working hours; employees are freed up by the CSSS so they can participate. This protected expanse of 3-h bi-weekly is a firmly negotiated condition of CSSSs' participation in the program. During the process, the team is guided, supported and oriented by mentors from the PHDM. The HPL has no ready-made underlying formula, such that the approach taken is adapted to the team's situation and needs. The iterative operational process suggested to the teams by the mentors is divided into seven phases:

- (i) In Phase 1, the participating CSSS identifies a particular public health problem (designated as the 'issue') and a team ready to work on this problem.

- (ii) In Phase 2, the team involved in the laboratory takes ownership of the proposed operational process and identifies and discusses actions to overcome constraints on their availability and to optimize incentives for participating in the laboratory.
- (iii) In Phase 3, team members are encouraged to acquire the basic concepts of public health through reading, discussions, exercises to understand the links between practices and concepts, etc.
- (iv) In Phase 4, the team explores, collects, analyzes and interprets data on the health of the population in their territory to identify the specific angle from which they want to address the issue.
- (v) In Phase 5, team members explore and discuss various options for interventions to address the issue from the chosen angle and then collectively decide on a project.
- (vi) In Phase 6, the team sets up partnerships with community stakeholders affected by the health promotion intervention that will be developed.
- (vii) Finally, in Phase 7, the team develops a logic model of the intervention and the intervention instruments, and sets up a multisectoral coordinating committee with the partners. The laboratory then culminates in the implementation of the project, which is the health promotion intervention developed.

Specific activities targeting the development of reflexivity are spread throughout the approach. In particular, group discussions about readings, sharing of the participants' experience, drawing lessons from these activities and applying learning to concrete practice cases are meant to spark reflexive questioning among participants of their professional practices and roles. In addition, the whole program builds on the problem-based learning approach to develop reflexivity among professionals. Partnerships with actors in other sectors are also a means of comparing and considering stakeholders' different perspectives and understandings.

METHODS

Research design

The findings presented in this paper are part of a larger evaluative project on the HPL that aims to analyze, amongst others, the outcomes of the HPL related to reflexivity and learning. Results

are based on qualitative interviews. Participant selection, data collection and data analysis are described in the following sections. Full ethical approvals were sought and obtained from the PHDM and University of X Ethics Committees.

Sites and participants selection

In this study, the participants were the members of the HPL teams of two CSSSs in the Montreal area (sites A and B). The teams consisted on average of 10 professionals and managers at different levels and were multidisciplinary (e.g. health promotion advisor, community organizer, dental hygienist, occupational hygienist, physician, nurse, social worker, specialized educator). The teams chose different health promotion issues to work on (site A, organizational health; site B, student retention). At the time of data collection, these two laboratories were the first to have been implemented and were therefore the most advanced in the process, with 1 year of implementation; other sites were in planning or in very early stages of implementation. The two sites were therefore selected on the basis of their availability and the feasibility of collecting the data. Since their HPLs had been in operation for a year, we posited that enough time had elapsed to see some results and proceeded with data collection at that time, rather than waiting to measure the effects only at the end of the process, which could extend over 2–3 years. Also, as the HPL teams shared relatively similar profiles and followed the same kind of approach, they were expected to provide similar results, which would enable a cross-case analysis.

After 1 year of implementation, all regular participants of the two laboratories (site A = 10; site B = 9) were invited to join the study. As the selection was designed to represent the participants of the program, the only inclusion criterion was to have been part of the HPL team for at least 6 months at the time of the interviews. In addition, middle and senior managers from each site (site A = 1; site B = 2) who supervised the team and were expected to participate occasionally in the laboratories were interviewed. Only one professional declined to participate due to lack of time for the interview (site A). Also, one of the interviews with a senior manager was discarded because the participant felt insufficiently knowledgeable about the laboratory to answer the interview questions (site A). Thus, the final number of participants was 20 (site A = 9; site B = 11).

Data collection

Qualitative interviews focused on outcomes of the HPL in terms of learning and development of reflexivity. Open-ended questions were used to investigate what participants had learned from the laboratory, as well as changes (if any) in their understandings of their practice, professional role and work environment that they attributed to participation in the laboratory. The interview grid was pre-tested with participants from other laboratories that were not included in the study.

Data analysis

The analysis was aimed at determining whether the HPL participants had developed reflexivity with regard to different aspects of their professional experience and, if so, of what kind? The analytic process was based on directed content analysis. For this, we used coding schemes based on categories emerging from the literature. Reflexivity was assessed by new understandings of practice, professional role and work environment, which we conceived as three important dimensions of professional experience that can be the objects of reflexivity. More importantly, the participant had to have attributed the new understandings to the laboratory experience. Another analytic question was related to the function of reflexivity, namely formative or critical. Formative and critical reflexivity categories were defined based on the literature synthesis (see Table 1).

All interviews were audiorecorded and transcribed verbatim. NVivo 8 software was used to analyze the interviews. The transcribed interviews

Table 1: Category definitions for formative and critical reflexivity

Type	Definition
Formative reflexivity	Examines practice experiences and situations as well as technical skills of the professional, allowing the professional to make sense of concrete situations and to identify knowledge applicable in practice, with the aim of improving practice
Critical reflexivity	Questions the premises of practice as well as power, social and moral issues that underlie the practice, allowing the professional to raise his critical awareness, with the aim of investing the professional in a system change process

were organized in a database, and answers to the interviews were first grouped into understandings of practice, professional role and work environment. Those understandings were then classified as reflective (i.e. demonstrating a change in understanding attributable to the HPL), non-reflective (i.e. demonstrating absence of any change in understanding) or neutral (i.e. simple understanding of the practice, which is neither indicative of a change nor of the absence of change). Then, the reflective understandings were further analyzed according to the formative and critical reflexivity categories defined in Table 1. For each category, specific themes were identified through core consistencies and meanings in responses.

In preparation for coding, two members of the research team worked together to agree on the coding and adjust the codebook. Coding was mainly performed by one coder; a reliability test was done with the second coder to ensure validity of the coding scheme and consistency of the analysis. The reliability test was based on coding of 10% of the sample (two interviews randomly chosen from sites A and B) independently performed by the coders. Reliability indices were calculated using NVivo 8 software and were satisfactory, based on a benchmark set at 70% of agreement between coders. Coding disparities were explored and resolved by consensus between the two coders.

RESULTS

Reflexivity outcomes

As mentioned, there is agreement in the literature that reflexivity is revealed by new perceptions and understandings of the professional experience (Boud *et al.*, 1985; Mezirow, 1990; Wong *et al.*, 1995). As such, our analysis of the interviews sought to highlight changes in the HPL participants' understandings of their *practice*, *role* and *work environment*, three important dimensions of the professional experience. Results were generally consistent across sites and revealed critical changes in most of the participants' understandings of *practice* and *role* (although not of *work environment*), suggesting an impact on reflexivity. Below, we present examples of changed (or unchanged) understandings related to these three areas.

First, many answers demonstrated that participants of both HPLs had developed new or

broader visions of their *practice* and of the field as a consequence of their participation, as illustrated in the two narratives below (To protect participants' anonymity, the masculine gender has been used in reference to all participants.):

SA_1: 'It's not so much about how to do it [practice], but more about how I think of it fundamentally, how I see our mission, how it can be broadened'. (All interviews were conducted in French and therefore all statements cited in this article have been translated into English.)

SA_4: 'Now, when I go into a place, I'm much more open to these considerations. . . It's in the way I see things on the ground. . . I'm still going to factories where I've gone for ten years, but now I'm starting to see them differently. . .'

With regard to understanding of the professional *role*, a smaller number of participants' answers showed that a new vision was developed through the HPL, as in this narrative:

SA_7: 'The laboratory has allowed me to reframe the context and the wider issues around my professional role. And now I think that, in that respect, I play my role better'.

However, new understandings concerning the work environment (CSSS) were almost absent from the participants' answers in both laboratories. Most said participating in the HPL had not led to their developing a new vision of the CSSS, indicating an absence of reflexivity around this issue. Some participants said their vision of the CSSS did not change because they had been working there for many years:

SA_1: 'To change the vision of my CSSS, that's probably a bit much, because after all, I've been working here for 33 years, so I already know my CSSS really well'.

In sum, the results suggest that reflexivity was mainly developed around professional practice and role, as shown by the new understandings and framings of these objects. In refining the analysis, we identified two distinct functions of these new understandings for practice and role: formative and critical functions. In the next sections, we expand upon these two kinds of reflective functions with examples.

Formative reflexivity

Formative reflexivity relates to developing new visions of professional experience that can help to improve it (Argyris, 1982; Teekman, 2000; Bolam and Chamberlain, 2003). In the interviews, the formative function of new understandings and renewed visions was highlighted by most of the participants in both laboratories and emerged through three strong themes related to either practice or role. In fact, new representations or understandings developed as a result of the HPL allowed participants:

- (i) to change how they conceived of their habitual action patterns;
- (ii) to develop a more comprehensive view of their field of practice, leading to more effective practice;
- (iii) to improve how they performed their role as health promoter.

First, in the HPL, participants were able to examine their practice and realize that other strategies and types of interventions existed that were not part of their usual action patterns. A participant manager pointed out that the professionals had learned new ways of thinking about issues and solutions:

SB_4: 'They're no longer seeing things just from the perspective of applying a program top-down, but rather, now they're grasping different aspects of local realities, and they see there are other types of strategies for action (...). And they realize there isn't only one way to see things'.

Some of the other participants' comments also illustrated this point. One professional said that the program allowed him to consider new ways of doing prevention and health promotion besides health education interventions.

SB_5: 'Yes, it [the lab] changed how I saw things... When I talk about prevention and [health] promotion, yes, we think of group interventions, mass interventions, but going beyond that wasn't part of my usual thinking'.

Second, new understandings developed in the HPL helped some practitioners to consider their clients more comprehensively to take into account new aspects of the people they encountered in the context of their work, leading to a more efficient practice. One participant discussed how the HPL, through a discussion about

health literacy, changed the way he perceived his clients and affected his practice:

SA_4: 'I would go into factory, I would sample the workers. I would set someone up with a pump, he would wear it all day, and I would observe him, taking lots of notes... But I never noted that he did not speak French, or did not understand English... After that, I would write my report in French, in the technical jargon of industrial hygiene, full of calculations. I always told myself, he won't understand it, but... someone will explain it to him... We should always have asked about it [language] but we never did. It's when we wanted to document the issue [in the HPL] that we realized we did not know anything about it. (...) So, this preoccupation with looking at our clients differently, that's what I've learned'.

Thanks to this new awareness, the team changed its reporting practices. The report now uses colours, charts and drawings to be more understandable by the worker.

Third, beyond influencing practice, the new understandings emerging from involvement in the HPL also helped participants to better conceive and fine-tune their health promoter role. For instance, reflecting on his professional role gave one participant a more refined and clearer understanding of it, providing him with new arguments to promote his role in the organization:

SA_7: 'I would say that [the laboratory] strengthened [my vision of my role]. It reinforced the vision I had and gave me the means to be more persuasive about how I saw it'.

For others, reflecting on their role as health promoter helped them broaden their understanding and reframe their role within a wider action system, pointing them toward action in new directions. A health professional working in a school expressed this particular point:

SB_7: 'I find that it [HPL] broadened my vision of what my role could be. I [now] know I can play... a resource role. That's it, I'm a resource person for the different services available in the community'.

Critical reflexivity

In reflecting on practice and role, some people also go beyond the formative function of the exercise and begin critically questioning the premises of their practice and social issues related to it. The new understandings arising from this process can be linked to critical reflexivity

(Argyris, 1982; Teekman, 2000; Bolam and Chamberlain, 2003). In this study, critical reflexivity was present in a smaller number of cases and developed around two themes related to practice and role. In fact, it appeared that critical reflexivity allowed some participants from both laboratories:

- (i) to develop new understandings of their practice linked to power, social justice and moral issues;
- (ii) to develop new understandings of their role relating to moral and social concerns.

First, reflecting on their practice raised some participants' level of social consciousness. One participant explained that, as a result of the HPL, he developed new social justice and moral concerns linked to his clients' situations:

SA_4: 'Before, I was doing prevention: the welder has to turn on the ventilation. But, the welder doesn't speak French, so he'll always remain a welder. He'll never become team leader because he doesn't speak French. ... it's impossible for him to improve his situation. ... He's not just a welder, he's also someone who's got a life outside of his work and who can have health problems related to the conditions of his life, like the fact that he doesn't speak French, or other problems affecting social inclusion, which could lead to other health outcomes. ... So, this preoccupation with looking at our clients differently, it's new for me. ... I'm not here [now] just to measure the worker's exposure level. ... I have to know a little more about his living conditions. Like, asking myself, has this guy finished high school? Will he be here in 100 years? Is he doomed to do this boring work all his life? I'm asking myself this kind of thing more now than I did before'.

Second, reflecting on their role modified some participants' understandings of it. Some now had a different perspective on what they did in the context of their work, relating to a more social and moral vision of their role. One participant noted that the new understandings he developed from his taking part in the HPL changed how he perceived the consequences of his actions, giving him a more social vision of them:

SB_5: 'For instance, when I do a prevention project, which for me used to be just something that one school needed at a particular moment, now I look at it more as something aimed at improving the population as a whole. I begin with a point, but ... now I see broader outcomes, larger scale effects'.

Another participant pointed out that taking part in the HPL changed the underlying purpose of his acts. In this case, his professional consciousness seemed to have broadened into a social consciousness.

SB_6: 'Yes, to some extent [participating in the laboratory has somewhat modified my vision of my role], in that I'm interested in becoming more involved ... in other committees. Not only as a professional, but also as an individual. Because every individual, I think, shares in the responsibility for school children and for all the children of the province. ... I think that in my work I can make a difference to a child: if he has good health, he can do better in school. ... So yes, after the laboratory I see my role differently, maybe. I think I'm more personally involved now. Before, it was only professional, now I think I see it differently'.

DISCUSSION

Our results showed that taking part in the HPL led many participants to modify their vision of their practice and professional role, indicating an impact on reflexivity (see Table 2). However, we should recall that their new understandings concerned especially professional practice and role; while our analysis postulated new understandings in those two areas and the work environment, in fact, almost no changes were seen in the latter. This may be due to the fact that HPL activities focused more on practice than on context of practice. Another explanation could be that, since the work environment relates more directly to systemic aspects of practice, it is not easily modifiable by the professional. Reflecting on improving the work environment (CSSS) may in fact involve more critical reflection on how to change the system, an issue not often tackled by the participants.

In general, our results provide strong support for the theory developed in this study. Thus, in many cases, new understandings seem to have played a formative function in allowing participants to improve their practice and role. In a few rare instances, the reflective process took on a critical function, culminating in a social and moral understanding of the impact on society of the professional's practice and role. While the first function relates mostly to improving the professional's work, the second rather concerns his potential contribution to a more equitable, socially healthy society. This distinction recalls the

Table 2: Summary of the findings

Concept	Definition and functions, <i>from theory</i> and from the findings
Reflexivity	<i>New representations and understandings of practice, professional role and work environment</i> <i>Modified vision and understanding of participants' practice and professional role</i>
Formative reflexivity	<i>Examines practice experiences and situations as well as technical skills of the professional, allowing the professional to make sense of concrete situations and to identify knowledge applicable in practice, with the aim of improving practice:</i> (i) New understanding of habitual action patterns, adding new potential action strategies to their repertory (ii) New vision of the practice field, leading to a more effective practice (iii) New understanding of the professional role, leading to improvement in how the role is played
Critical reflexivity	<i>Questions the premises of practice as well as power, social and moral issues that underlie the practice, allowing the professional to raise his critical awareness, with the aim to invest the professional in a system change process</i> (i) New understanding of the practice linked to power, social justice and moral issue (ii) New understanding of the role relating to moral and social concerns

one drawn by Bolam and Chamberlain, in which light reflexivity 'may work to improve best practice within currently accepted boundaries' [(Bolam and Chamberlain, 2003), p. 217] and dark reflexivity works to challenge the existing practices of the whole system.

In this study, the formative and critical reflexivity categories were first conceived as a scale on a vertical dimension model, in line with models presented in the literature review (Mann *et al.*, 2009). Generally, the findings support this conclusion and demonstrate that deeper levels, being more difficult to reach, are in fact less frequently reached. Formative reflexivity seems to consist in a first, easily attainable level, where the professional reflects on what he is doing and how to improve it. Almost all participants from the two laboratories were able to reframe and reconceive their understanding of their practice, and to a lesser extent, their role. Critical reflexivity, in contrast, appears to be a reflection level more difficult to reach; in our cases, fewer participants were able to question their practice and role in relation to broader issues. We recognize that these categories could also fit within an iterative process model (Mann *et al.*, 2009), in which the professional first examines his professional experience with the aim of improving it and then, within this reflection process, start to become aware of how his practice and role are framed inside a predetermined system, and how they relate to social, ethical and moral issues created by this system. Consequently, the progression through formative and then critical levels could also be conceived as an evolution through a process. Our results also support this hypothesis, since most of the participants who reached the

critical level had also gone through a process of formative reflexivity.

Formative reflexivity is a valuable tool that could be used to stimulate innovation and performance in health promotion practice, which faces complex challenges in improving population health status. In fact, in health promotion, reflexivity '... potentially can lead to the creativity, new ways of thinking and skill development that multidisciplinary partnerships to promote health and wellbeing and professional training require' [(Issitt, 2003), p. 177]. However, while formative reflexivity is a useful exercise that should be part of every mindful health promoter's practice, it should always be accompanied by critical reflexivity. In fact, critical reflexivity, as a process for assessing the impact of practice on social dynamics, has the potential to transform the practitioner into an engaged and invested social actor and to promote societal change (Bolam and Chamberlain, 2003; Issitt, 2003). Health promoters, in particular, because they deal with health determinants and power imbalances that create both health and sickness, should take up this critical reflexivity head-on in order to reframe their practice and role from a broader perspective. Thus, critical reflexivity is greatly desired in health promotion, given the social justice and equity concerns of this field of practice.

Validity and limitations of the study

In qualitative designs, a study's trustworthiness is often a function of credibility (internal validity), transferability (external validity) and dependability (reliability) (Lincoln and Guba, 1985; Yin, 2009). In this study, we employed several means to

ensure trustworthiness. First, the credibility of the findings was supported in several ways. The researcher was engaged with the PHDM program team from the start of the implementation process in order to develop a deep, comprehensive understanding of the subject. Individual summaries of each interview were drafted by the researcher and validated by participants to ensure the researcher's understanding of their answers accurately reflected participants' thinking. In addition, the interpretation of results was validated by participants through a group meeting where results were presented and discussed. With regard to transferability, this study was conducted with a view to analytical generalization, where a particular set of results is generalized to a theory and not to a broader population (Pires, 1997; Yin, 2009). In this study, the use of two cases and the depth of the analysis provided greater explanatory depth and supported robust theory replication. Finally, as explained earlier, the dependability of coding was satisfactorily validated by a second coder.

However, this study may suffer from some limitations, and results must be interpreted in this context. First, participants in qualitative interviews are subject to memory bias, which could impede their capacity to identify clearly any changes in their understanding (our participants, for instance, were required to recall their thinking from a year before). While this is an unavoidable weakness of this type of methodology, we may at least assume this memory bias was similar in both sites. In addition, a social desirability bias, introduced when interviewees say what they believe the interviewer wants to hear, can also interfere with the results. To address this challenge, the interviewer strove to maintain neutrality throughout the interview process. Finally, it is possible, although unlikely, that other factors outside the HPL program stimulated a renewal of the participants' understandings and visions of their practice and role. Nevertheless, qualitative interviews are considered the most appropriate means of collecting data on social actors' experience and perceptions (Poupert, 1997).

CONCLUSION

Reflexivity is of particular importance to the education of professionals, as it has the potential to transform experience into new learning. The HPL is a professional development program that

builds, in particular, on reflexivity to foster learning and practice change in health promotion. This study explored short-term reflexivity outcomes of the HPL in the form of new understandings of practice, professional role and work environment developed by 20 participants of the program. Results revealed that, after 1 year, participants' understandings and visions of their practices and roles were thoroughly modified. Some of these new understandings seem to have played a formative function in allowing participants to improve their practice and their role as health promoters. Other new understandings attributed to the HPL could have played a critical function, by highlighting the impacts on society of professionals' practices and roles, which is a crucial issue for the health promotion field. By exploring a concept of reflexivity redefined on two levels (formative and critical) and discussing the impact of both types on practice for health promoters, this study provides some support of the usefulness of such a distinction. In conclusion, the findings highlight the need for greater concern about the kind of reflexivity targeted in health promotion professional development as well as the need to include activities fostering the development of both kinds of reflexivity in education and training programs.

ACKNOWLEDGEMENTS

The authors want to acknowledge Lynda Rey, who provided valuable help in assessing the reliability of the analysis.

FUNDING

Marie-Claude Tremblay is funded by the Strategic Training Program in Transdisciplinary Research on Public Health Interventions: Promotion, Prevention and Public Policy (4P), a partnership of the Institute of Population and Public Health and the Institute of Health Services and Policy Research of the Canadian Institutes of Health Research (CIHR) and the Québec Population Health Research Network. Lucie Richard is supported by the Fonds de recherche en santé du Québec (FRSQ). Astrid Brousselle's Canada Research Chair in Evaluation and Health System Improvement is funded by the FRSQ and the CIHR.

REFERENCES

- Argyris, C. (1982) *Reasoning, Learning, and Action: Individual and Organizational*. Jossey-Bass, San Francisco, CA.
- Argyris, C. and Schön, D. A. (1978) *Organizational Learning: A Theory of Action Perspective*. Addison-Wesley, Reading, MA.
- Beaudet, N., Richard, L., Gendron, S. and Boisvert, N. (2011) Advancing population-based health-promotion and prevention practice in community-health nursing: Key conditions for change. *Advances in Nursing Science*, **34**, E1–E12.
- Bleakley, A. (1999). From reflective practice to holistic reflexivity. *Studies in Higher Education*, **24**, 315–330.
- Bolam, B. and Chamberlain, K. (2003) Professionalization and reflexivity in critical health psychology practice. *Journal of Health Psychology*, **8**, 215–218.
- Boud, D., Keogh, R. and Walker, D. (1985) *Reflection: Turning Experience into Learning*. Kogan Page, London.
- Cunliffe, A. L. (2004) On becoming a critically reflexive practitioner. *Journal of Management Education*, **28**, 407–426.
- Danziger, D. (1997) The varieties of social construction. *Theory and Psychology*, **7**, 399–416.
- D'Cruz, H., Gillingham, P. and Melendez, S. (2007) Reflexivity, its meanings and relevance for social work: a critical review of the literature. *British Journal of Social Work*, **37**, 73–90.
- Delany, C. and Watkin, D. (2009) A study of critical reflection in health professional education: 'learning where others are coming from'. *Advances in Health Science Education: Theory and Practice*, **14**, 411–429.
- Dewey, J. (1910) *How We think*. D. C. Heath and Company, Lexington, MA.
- Greenwood, J. (1998) The role of reflection in single and double loop learning. *Journal of Advanced Nursing*, **27**, 1048–1053.
- Guba, E. G. (1990) *The Paradigm Dialog*. Sage Publications, Newbury Park, CA.
- Guba, E. G. and Lincoln, Y. S. (1994) Competing paradigms in qualitative research. In Denzin, N. K. and Lincoln, Y. S. (eds), *Handbook of Qualitative Research*. Sage Publications, London, pp. 105–117.
- Hong, Y. C. and Choi, I. (2011) Three dimensions of reflective thinking in solving design problems: a conceptual model. *Educational Technology Research and Development*, **59**, 687–710.
- Issitt, M. (2003) Reflecting on reflective practice for professional education and development in health promotion. *Health Education Journal*, **62**, 173–188.
- Jarvis, P. (1992) Reflective practice and nursing. *Nurse Education Today*, **12**, 174–181.
- Kember, D. (2001) *Reflective Teaching and Learning in the Health Professions*. Blackwell Science, Oxford.
- Kember, D., Jones, A., Loke, A., McKay, J., Sinclair, K., Tse, H. et al. (1999) Determining the level of reflective thinking from students' written journals using a coding scheme based on the work of Mezirow. *International Journal of Lifelong Education*, **18**, 18–30.
- Lincoln, Y. S. and Guba, E. G. (1985) Establishing trustworthiness. In Lincoln, Y. S. and Guba, E. G. (eds), *Naturalistic Inquiry*. Sage Publications, Newbury Park, CA, pp. 289–331.
- Mann, K., Gordon, J. and MacLeod, A. (2009) Reflection and reflective practice in health professions education: a systematic review. *Advances in Health Sciences Education. Theory and Practice*, **14**, 595–621.
- Mezirow, J. (1981) A critical theory of adult learning and education. *Adult Education*, **32**, 3–24.
- Mezirow, J. (1990) *Fostering Critical Reflection in Adulthood: A Guide to Transformative and Emancipatory Learning*. Jossey-Bass Publishers, San Francisco, CA.
- Mezirow, J. (1991) *Transformative Dimensions of Adult Learning*. Jossey-Bass, San Francisco, CA.
- Pires, A. P. (1997) Échantillon et recherche qualitative: essai théorique et méthodologique. In Poupart, J., Deslauriers, J.-P., Groulx, L., Laperrière, A., Mayer, R. and Pires, A. (eds), *La recherche qualitative: enjeux épistémologiques et méthodologiques*. Gaetan Morin, Boucherville, QC, pp. 113–169.
- Poupart, J. (1997) L'entretien de type qualitatif : considérations épistémologiques, théoriques et méthodologiques. In Poupart, J., Deslauriers, J. P., Groulx, L., Laperrière, A., Mayer, R. and Pires, A. P. (eds), *La recherche qualitative : enjeux épistémologiques et méthodologiques*. Gaetan Morin, Boucherville, pp. 173–209.
- Schön, D. A. (1984) *The Reflective Practitioner: How Professionals Think in Action*. Basic Books, New York.
- Schön, D. A. (1987) *Educating the Reflective Practitioner: Toward a New Design for Teaching and Learning in the Professions*. Jossey-Bass, San Francisco, CA.
- Teekman, B. (2000) Exploring reflective thinking in nursing practice. *Journal of Advanced Nursing*, **31**, 1125–1135.
- Tremblay, M. C., Brousselle, A., Richard, L. and Beaudet, N. (2013) Defining, illustrating and reflecting on logic analysis with an example from a professional development program. *Evaluation and Program Planning*, **40**, 64–73.
- Usher, R. and Bryant, I. (1989) *Adult Education as Theory, Practice and Research*. Routledge, London.
- Wong, F. K., Kember, D., Chung, L. Y. and Yan, L. (1995) Assessing the level of student reflection from reflective journals. *Journal of Advanced Nursing*, **22**, 48–57.
- Yin, R. K. (2009) *Case Study Research: Design and Methods*. Sage Publications, Thousand Oaks, CA.