Exploring the usability of the Andragogical process model for learning for designing, delivering, and evaluating a workplace communication partner training

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Abstract

Purpose: This study explores the usability of the andragogical process model for learning to develop, deliver, and evaluate training to improve communication between adapted transport drivers and people living with communication disabilities, and to identify the successes and limitations of the model in this context.

Design/Methodology/Approach: Two aspects were considered to explore the usability of the andragogical process model for learning: 1) comparison between the elements of the model and the designing, delivering, and evaluating processes of the training; and 2) an appreciation evaluation.

Findings: The model was useful to systematically design, deliver, and evaluate a workplace training that was appreciated by the learners, even though most of the model's elements were modified to meet the constraints of the trainer and the organization. Assessing the needs for learning, establishing a human climate conducive to learning, and choosing appropriate training methods emerged as key elements that contributed to a successful appreciation of this training.

Originality: This study is one of the few that examines the possibility of a systematic application of the andragogical process model for learning to workplace training. Its results suggest that the model could be considered for application by non-professional trainers or external trainers from a workplace, but that organizational constraints must be considered when using it.

1. Introduction

Adult education researchers have espoused various theories to describe, deliver, and improve adult learning in diverse contexts. However, rehabilitation researchers and professionals do not always consider adult education literature when designing training programs for people who work with persons with disabilities. Yet, training derived from the principles and procedures of adult education research can facilitate the development of important competence of this type of learner.

The field of adult education is vast and includes different principles, approaches, and theories, including transformative learning, situated learning, vocational literacy, and soft skills for adult learners. Knowles (1972) defined andragogy as the science and art of helping an adult to learn. It provides a set of theoretical proposals on adult learning and has been growing since the 60s, with the most visible changes in the 90s (Draper, 1998; Savicevic, 2008). Andragogy is still studied in adult education scientific literature and use in practice (Reischmann, 2017). Considering its relevance to help trainers prepare learning activities (Draper, 1998), the present study examines the use of andragogy in developing, delivering, and evaluating workplace training.

2. Theoretical background

2.1 Andragogy

The principles and methods of andragogy consider the characteristics of adult learners and their living conditions to form successful educational interventions for them (Voyer and Zaidman, 2014). Knowles (1989) identified six characteristics that distinguished adult learners from children, known as the andragogical principles (see Table 1). Andragogical principles have been used and studied in various learning environments (Chan *et al.*, 2010) such as academic contexts

(Birzer, 2004; Tolstoy and Miloslavskaya, 2019), institutional settings such as police academies (Vodde, 2012), online platforms (Decelle, 2016), and workplace training (Athavale, 2016; Roberts, 2007; Woodard, 2007).

Table 1. Knowles's andragogical principles

Andragogical principles	Description
Need to know	Adult learners need to know why they need to learn, what they will learn, and how before learning something.
Learner's self-concept	Adult learners can self-direct their learning.
Learner's experience	Adults accumulated experiences as they grew. This experience can either be a resource or an obstacle to learning.
Readiness to learn	Adult learners feel ready to learn when they need to learn to help them cope with a real-life situation.
Orientation to learning	Adults tend to be pragmatic learners, preferring problem-centered learning.
Motivation to learn	An adult's motivation to learn is internal.

Although andragogical principles are widely used, they have been criticized for not being based on sufficient empirical evidence (Taylor and Kroth, 2009). They have also been criticized for the difficulty of concretely using participants' experience in training activities (Rachal, 2002). Additionally, andragogical principles associate adult learners with characteristics, such as maturity or motivation, which can just as easily be applied to children (Draper, 1998; Merriam, 2001). Despite these criticisms, the principles have guided adult education practices and academic research both in North America (Savicevic, 2008) and other countries (Draper, 1998), and enjoy credibility in workplaces (Rivard and Lauzier, 2013) for their ability to develop adult learning activities.

The andragogical process model for learning (APML) (Knowles *et al*., 2015) facilitates the application of andragogical principles by operationalizing them into eight iterative elements to

guide the design, delivery, and evaluation of a learning activity (see Table 2). For examples, the APML was used to construct a safety-training framework (Albert and Hallowel, 2013) and in criminal justice programs (Birzer, 2004). However, more research is needed to explore the relevance of the APML in various learning contexts because few studies question the feasibility of implementing them systematically, as suggested by the APML.

2.2 Training public transport drivers

Over 440,000 Canadians live with a communication disability that can impact their ability to speak, understand, read, and write (Collier, 2018). Their access to public transportation, an essential service to ensure participation in the community (Church *et al*., 2000; Gallez and Motte-Bauvmol, 2017), is influenced by the drivers' attitudes and communication skills (Ashton *et al*., 2008; Bigby *et al.*, 2019). Considering the importance of accessible public transportation, we believe that a communication partner training (CPT) should be offered to improve communication between the drivers and people living with a communication disability (PWCD).

CPT is a speech-language pathology intervention that aims to change the communication environment by training communication partners of PWCD to use various communication strategies and resources (Simmons-Mackie *et al*., 2016). This intervention is often used with family members, healthcare workers, or students, and less often with community workers such as public transport drivers (Behn *et al.,* 2021; Simmons-Mackie *et al*., 2016; Tessier *et al.*, 2020). CPT mainly considers a specific type of communication disorder (e.g., dementia) instead of addressing more than one communication disorder, facilitating its implementation (O'Rourke *et al.,* 2018; Tessier *et al*., 2020). Furthermore, only a few of these CPT draw from adult education research (e.g., Chu *et al.*, 2018; Forsgren *et al.*, 2017; Hui-Chen *et al.*, 2016; Saldert *et al.*, 2016).

Hence, there is a lack of CPT for non-healthcare personnel based on adult learning research, especially one that addresses multiple communication disabilities (Tessier *et al.*, 2020).

A public transportation service of a large Quebec City in Canada, collaborated in this research project. Specifically, this study was undertaken with their adapted transport (paratransit) service, a door-to-door transportation service for people who cannot use regular public transit. The clientele is people with disabilities, some of whom are PWCD. Adapted transport hires 145 unionized drivers and serves 26,000 regular users, making more than three million trips per year. The initial training for drivers includes a brief presentation on the limitations of the clientele, but no specific training about communicating with PWCD is provided. We believe that applying andragogical principles can help develop a workplace CPT for bus drivers because they can provide guidance about aspects that should be considered when planning an adult learning experience. This guidance could be useful for inexperienced trainers, such as rehabilitation researchers and professionals. Furthermore, the use of andragogical principles may help understand certain CPT characteristics for them to be successfully replicated and implemented. Hence, the present study aims to explore the usability of the APML to guide rehabilitation researchers and professionals with no specific background in adult education, in designing, delivering, and evaluating a workplace CPT program for adapted transport drivers. It also aims to identify the successes and limitations of the model in this context.

3. Methodology

This research was a case study of an intervention. The case study was about the design, delivery, and evaluation of a communication partner training program in a workplace. Its scope is strictly exploratory and descriptive. This study was part of the doctoral dissertation of the first author (AT)

who acted as the trainer. She is a content expert, with training experience but no experience in transportation or on-the-job training.

3.1 The andragogical process model for learning

The development, delivery, and evaluation of the CPT for adapted transport drivers were guided by the APML (Knowles *et al*., 2015). Table 2 describes each of the eight elements that the trainer sought to implement or adapt.

Table 2. The andragogical process model for learning

Elements	Description
Preparing the learner (E1)	Involves helping the learners avoid and handle the shock they may experience during training that requires their proactive participation. It is suggested that a preparatory session should include an explanation of proactive learning, identification of learners' resources, and a mini project to use proactive learning skills.
Establishing a climate conducive to learning (E2)	Includes considering the suitability of the physical environment, the quality and availability of resources, the human climate, and the organizational climate in which the training will occur.
Creating a mechanism for mutual planification (E3)	Involves creating a mechanism by which learners participate in the learning planning process with the training designer and all the concerned parties. This mechanism is applied throughout the learning activities to reevaluate their relevance, ensure that they meet learners' needs and objectives, and reorient the training, if necessary.

Diagnosing the learning needs (E4)	Involves identifying learners' learning needs by considering three sources of information: the learners themselves, their work organization, and the society at large.
Formulating the objectives (E5)	Involves formulating the objectives of the training program. The APML stresses the importance of learners freely choosing objectives relevant to their self-diagnosed needs.
Designing a pattern of learning experiences (E6)	Involves designing a pattern of learning experiences based on activities that support the objectives set for the training.
Operating the training (E7)	Involves the actual operation of the training program. The quality of resources (e.g., the professionalism of the staff involved in the training planning process, the use of andragogical principles by the trainer) of the organization in which the training takes place is key to successfully operating the training.
Evaluating the training (E8)	Includes post-program evaluation and re-diagnosing the learner's learning needs to improve and modify the learning activity as required. Re-diagnosing the learner's learning needs could be done during the training program or at the end.

3.2 Development, delivery, and evaluation of training processes

The following process occurred in the summer and fall of 2016 for training design, and fall of 2016 and 2017 for its delivery and evaluation.

3.2.1 Developing the workplace CPT

The choice of training content and methods were based on four steps undertaken by the first author (AT):

1) a needs analysis conducted by consulting six drivers, one chief operating officer, and four users living with a communication disability and three-and-a-half days of observation in the work organization and on the bus;

2) a scoping review of CPT on acquired neurogenic communication disorders that had been offered to paid workers and unfamiliar communication partners (Tessier *et al.*, 2020);

3) an examination of the literature on PWCD's social participation and access to public transportation, communication strategies, adult education, and workplace training; and

4) a pilot of some training content and methods in a CPT offered to the non-professional staff of a rehabilitation center.

Needs analysis allowed the trainer to become familiar with the drivers' work environment, work activities, communication context, and ways of interacting with PWCD, which helped her understand the drivers' work and identify their learning needs. Additionally, consulting users of the adapted transport completed the literature search by confirming that they had the same needs identified in the scientific literature. Needs analysis also provided examples of appreciated behaviors adopted by some drivers or situations where the PWCD did not feel respected while interacting with an adapted transport driver. These examples were beneficial to bonify the training with real situations lived by PWCD while using adapted transport. The trainer then designed the first version of the CPT, entitled *Accessible Communication in Public Transportation*.

To seek validation and ensure that the planned CPT met the needs of the drivers and the organization and that the format was adequate for the managers, the trainer consulted with two key organizational representatives, a division head and a chief operating officer, and an adapted transport driver, who was also the union representative. The trainer then met them all together to discuss their impressions of the training synopsis and modify it as needed.

To ensure that the CPT content and methods were relevant and well planned to realize CPT aims, a six-person expert committee evaluated the training synopsis and its materials. This expert committee was composed of a service user living with a communication disability, a driver representative of the union, the chief operating officer, a professor of adult education, an experienced speech-language therapist, and a postdoctoral fellow in knowledge translation with a Ph.D. in speech-language pathology. The synopsis and material were modified according to the expert committee's input, and the pattern of learning experiences was stabilized. The final synopsis had four general objectives and one goal: to facilitate and improve bus drivers' interaction with PWCD.

The first training session contained three modules that prepared and motivated drivers to acquire new communication skills. It allowed drivers to develop their commitment to and participation in the training before core knowledge was introduced. It included theoretical lectures, knowledge-sharing activities, and group work. All training activities left room for fun and established an atmosphere of adultness based on mutuality and informality, as recommended by the APML.

The first module was designed to stimulate drivers' need to learn how to communicate better with PWCD and enhance their motivation and participation in the training. The second module was developed to emphasize the already present communication skills in the drivers and valorize their experiences. The third module was based on positive psychology theory, which focuses on studying positive emotions and positive character traits (Seligman *et al.*, 2005). This module highlighted each participant's existing strengths and explored how these could be leveraged to facilitate communication with PWCD to strengthen drivers' commitment to and participation in the training.

The second session contained a single module—to teach the drivers to use appropriate communication skills with PWCD via viewing and discussing videos of interactions between service providers and PWCD. Activities surrounding the videos were specifically designed to teach communication strategies humorously by showing two versions of interactions: one in which a service provider uses communication strategies and one in which he/she is less supportive of the communication needs of the PWCD. The videos were analyzed in both large and small groups. This module also included brief lectures, knowledge-sharing, and role-playing activities to practice using communication strategies. Additionally, handouts summarizing communication profiles and communication strategies were distributed.

3.2.2 Delivering the training.

To participate in the CPT and its evaluation process, adapted transport drivers were recruited with a poster in their employee room and through direct solicitation from their managers. The drivers had to speak, understand, read, and write in French because the training was conducted in this language. The researcher described the project and its implications to the participants both orally and in writing, and participants gave their informed consent in writing. This research project was approved by the ethics committee of the Centre for Interdisciplinary Research in Rehabilitation of Greater Montreal (ref. no. 1148-0416).

In total, 13 adapted transport drivers participated in this study, five women and eight men between 33 and 57 years (mean=44). They had, on average, 14 years of education (range=10-17) and had worked for the adapted transport for four months to 11 years (mean=4.5). Most participants (n=8) had previous experience with PWCD outside of their work at the adapted transport, either with family or friends (n=7) or in another work context (n=1).

The training was held in a conference room at the adapted transport service and lasted for five-and-a-half hours. The trainer delivered face-to-face training to three groups of drivers. The training was done in two sessions of two-and-a-half and three hours. The sessions were two to five days apart so that the drivers could assimilate the content of the first session and apply their new knowledge in the field. Additionally, the time of the sessions depended on the drivers and the organization's availability. Because it was not possible to free many drivers at the same time to assist in the training, each training group consisted of four or five people.

3.2.3 Evaluating the training.

Post-training evaluation was conducted following Kirkpatrick's (1975) model of evaluation, which includes considerations of reaction (e.g., appreciation), learning, behavior, and organizational performance evaluation. Appreciation evaluation was conducted using a questionnaire completed immediately after the last training session—the questionnaire comprised 19 items, rated on a 5-point Likert scale. Percentages were calculated to describe the results obtained for each item of the questionnaire. Learning and behavior evaluations are presented in another study (Tessier *et al.*, submitted). The fourth level was not carried out in this study. Re-assessment of trainees' learning needs was undertaken with individual interviews conducted after the training, but the data have not been analyzed yet.

3.3 Analysis procedure

Two approaches were used to explore the usability of the APML. First, to describe the extent to which the APML was applied, we compared our design, delivery, and evaluation processes with each of the eight elements described in APML and examined if the model's elements were fully

applied or modified. If an element was modified, we explained how and why it was modified and where specific suggestions of the model were removed. Secondly, the appreciation evaluation was used to evaluate if the model used allowed for the development and delivery of training that the trainees appreciated.

4. Results

4.1 Application of the andragogical process model for learning

The extent to which each element of the APML was applied is described below. Of the model's eight elements, three were fully applied in this study. Each of the other given elements were modified (see Figure 1).
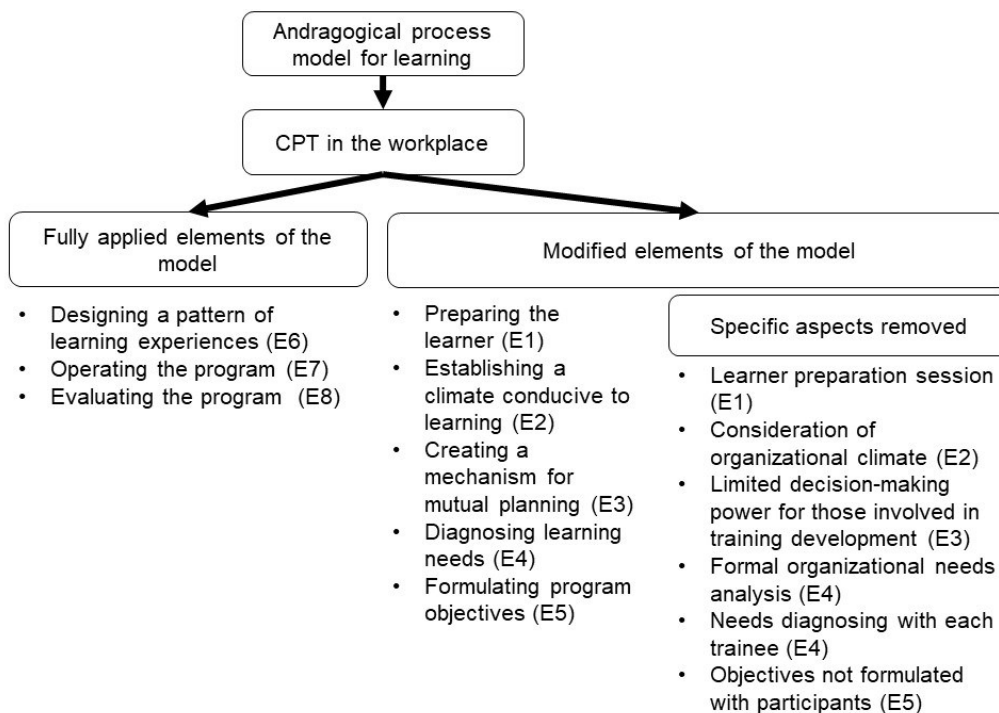

Figure 1. Application of the andragogical process model for learning in the workplace

4.1.1 Preparing the learner (E1)

This element of the APML was modified due to the cost and logistical challenges of freeing the drivers from their work for training. Instead of devoting an entire session as recommended in the APML, we prepared the trainees to be active learners and involve themselves in the training during the first training session by integrating some elements proposed by the APML for an introductory session. At the beginning of the first training session, proactive learning was explained. The trainer also specified that the training would necessitate the drivers' participation and explained what was expected from them. The second module of the first training session was designed so that the drivers could identify and share the communication behaviors and strategies used in their day-to-day experience. Finally, the last module also contained an activity where the drivers had to be proactive learners by identifying how their strengths could help them in their work and with passengers living with a communication disability.

4.1.2 Establishing a climate conducive to learning (E2)

This element was modified due to time constraints and because the trainer-designer was from outside the organization. Hence, the trainer did not focus on the specific aspects of the work organization that might foster a climate conducive to learning. However, the organization did demonstrate its interest and needs in the training by supporting and allocating resources to plan, deliver, and evaluate the CPT, participating in the evaluation of the training synopsis, and recruiting participating drivers. The physical environment was addressed by setting up the conference room to encourage participation. Furniture was placed in circles and moved according to the needs of various training activities. The trainer delivered the training in a seated position to ensure that a hierarchical relationship was not established with the participants. To establish a

human climate conducive to learning, the trainer facilitated the training by creating an atmosphere of care, acceptance, trust, and respect. Establishing this climate was made easier since she already knew all the participants and had established a relationship with them in earlier stages of the study. To encourage the drivers' commitment and motivation, the trainer explained the origin of the project, its purpose, and her expectations for the training. She also invited participants to express their expectations, experiences, and opinions. As for the quality and availability of resources, handouts summarizing key points of the training were distributed to the drivers; AT ensured that the internet resources shared in the training were available and that the trainees knew how to find and use them. She also made herself accessible for any questions the participants may have about the training.

4.1.3 Creating a mechanism for mutual planning (E3)

This element of the APML was modified to respect the organizational and trainer time constraints. As recommended in the APML, all concerned parties participated in a mechanism for mutual planning. Drivers, managers, and adapted transport users living with a communication disability participated in identifying the needs for learning. Also, some of them validated that the training plan met the needs of the drivers and the organization and were part of the expert committee. However, contrary to what is proposed in the model, the decision-making of these persons was limited to sharing their needs and commenting on the training program. Ultimately, all the decisions were taken by the training designer.

4.1.4 Diagnosing the needs for learning (E4)

The fourth element of the APML was modified. Parts of societal, organizational, and individual sources were used in assessing the learning needs, but modifications were made to some of the APML's recommendations.

To determine both broader societal and PWCD's perceptions of the latter's need for inclusiveness, the trainer reviewed the literature on PWCD's social participation and access to public transit. To complete the literature search and obtain specific information on PWCD's needs regarding their use of the adapted transport service, the trainer consulted with four adapted transport users living with a communication disability.

Although, a formal assessment of the organization's performance needs was not conducted, the organization's needs and desire for their drivers to be trained to communicate with PWCD were expressed by their involvement in the project.

Contrary to APML's suggestions, individual learning needs were not assessed personally with each trainee, given the difficulty of freeing participants from their work. Nevertheless, the trainer accompanied some drivers while they were working and consulted with six drivers, of which three participated in the training and one chief operating officer about their needs regarding their communication with PWCD.

4.1.5 Formulating training objectives (E5)

This element was modified given that the trainer, a content expert on speech-language pathology, was the best person to elaborate training objectives on improving communication with PWCD. Still, their relevance was validated by the adapted transport key stakeholders and the expert

committee. Hence, the training objectives were neither discussed nor negotiated with each participant to ensure they were relevant. Instead, they were presented visually in a slide presentation, conveyed verbally, and discussed with the drivers at the beginning of the training. To prompt the adoption of the objectives by the drivers, the trainer highlighted how the objectives were relevant by relating them to their fears, experiences, and expectations.

4.1.6 Designing a pattern of learning experiences (E6)

This element of the APML was fully applied. The training content was based on the learning needs and literature search about CPT for paid workers and unfamiliar partner and communication strategies. Since the APML does not provide sufficient details on how a pattern of learning experiences should be designed, information on the subject was found in a literature search about adult education and workplace training. The designed pattern of learning experiences was further validated in one session with three stakeholders of the adapted transport and one individual meeting with each expert committee member.

4.1.7 Operating the training (E7)

This element was fully applied. The designer-trainer was guided by the andragogical principles and the APML in designing and delivering the CPT program.

4.1.8 Training evaluation (E8)

This element was fully applied. However, we still need to analyze the data to re-assess participants' learning needs. The next sub-section presents the appreciation evaluation results.

4.2 Appreciation evaluation results

The results of the appreciation evaluation indicated that participants appreciated the training, particularly the way the trainer facilitated it (see Figure 2). Participants also responded that they found the videos especially helpful and that the training activities allowed for active learning. Most of them strongly agreed that the practical activities, several of which drew on the drivers' experiences, helped them integrate the training content. Achievement of the training objectives, their alignment with the drivers' needs, and the appropriateness of the training duration are the questionnaires' items with the lower percentages of "strongly agreed" ratings.
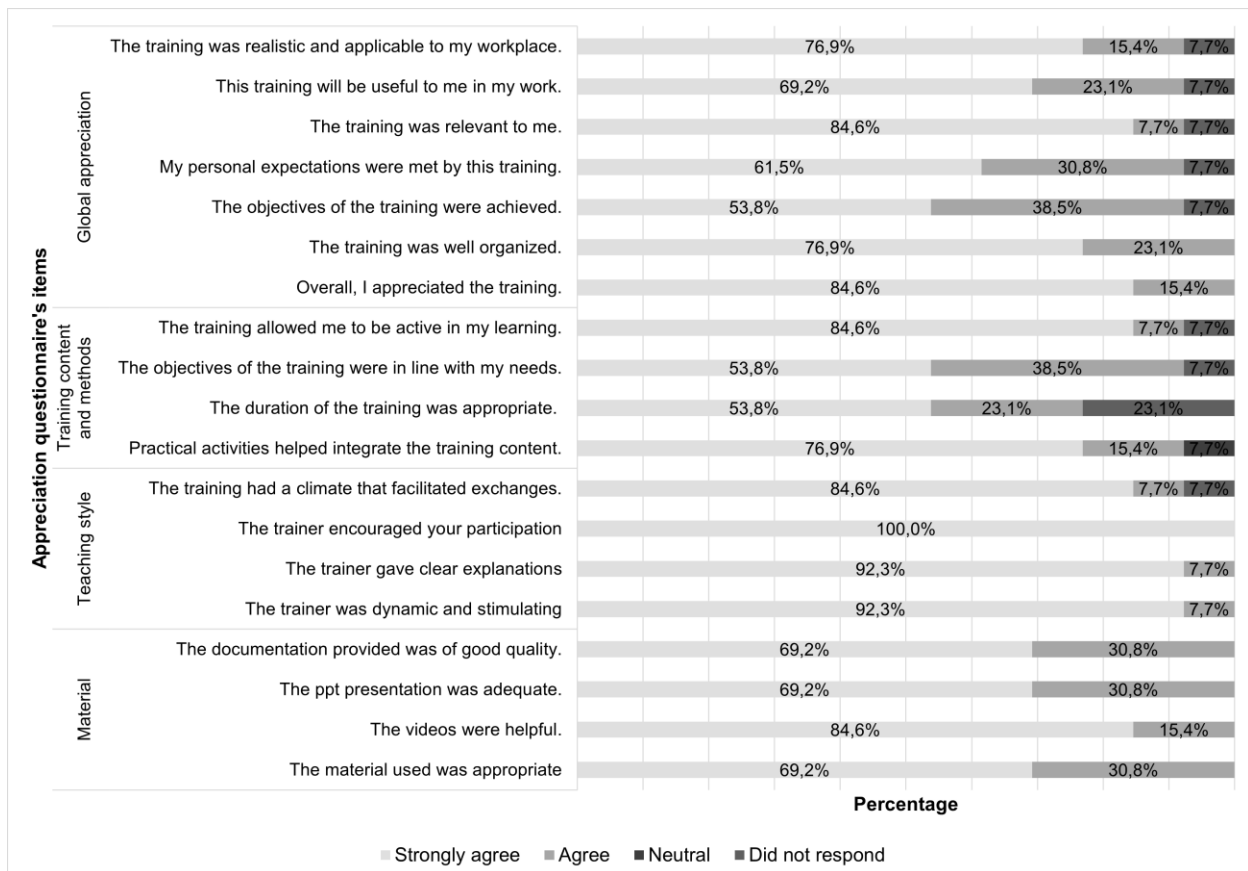

Figure 2. Results of the appreciation questionnaire

5. Discussion

The results of this case study showed that although it was difficult to apply the AMPL fully, all its elements were useful for providing systematic support for designing, delivering, and evaluating an adult learning activity that took into account the trainees' experiences and was appreciated by them. Although most of the APML elements were adapted to respond to organizational constraints, none were excluded entirely. This is an important contribution to content experts, such as rehabilitation researchers and professionals, who are less familiar with adult learning and workplace training principles and procedures.

More specifically, the results of this study led us to identify the strengths and weaknesses of the APML when applied to workplace training. First, needs analysis (E4) seems an unavoidable element of the APML for an external trainer and deserves to be carried out in depth and with several sources. This study suggests that needs analysis is central to developing a familiarity with the organizational context, developing appropriate content, understanding workers' practical experiences, and enhancing the value of the training. This is in line with previous studies, which found that the training content relevant to training participants' work activities and constraints is more likely to be put into practice (Baldwin and Ford, 1988; Chukwu, 2016). Therefore, needs analysis can help an external trainer grasp participants' key concerns and share concrete examples to enhance the effectiveness of training programs (Chukwu, 2016). Furthermore, such needs analysis could help trainers establish a climate conducive to learning by fostering relationships with participants and prepare them before the formal training begins. This is an important insight because organizations often use external trainers to provide continuing education to upskill workers in areas they do not have the expertise (Gagnon and Smith, 2013).

Despite the needs analysis, only 53.8% of the participants strongly agreed that the training was aligned with their needs and that their needs were met. Hence, the way the trainer conducted the needs analysis did not seem sufficient to align the training with each trainee's goals. This could indicates that each learner's needs should be individually assessed in the design process (E4), or that more time should be dedicated to this element either in the designing or delivering of the training. We could have discussed the personal objectives of the participants and ensured that they found them relevant to their work (E5). Furthermore, we could have informally re-assessed the needs for learning during the training instead of at the end (E8). This might have also ensured that the objectives were aligned with the participants' needs. Therefore, future research should pay more attention to these elements of the APML to ensure that the training objectives are relevant for all the trainees.

Second, the training climate (E2) seemed to have enhanced the delivery of training and learners' appreciation for the training. The results of the appreciation questionnaire showed that the trainees in this study were satisfied with the trainer. This means that the trainer and the climate were still appreciated, although the training might not have completely met the trainees' expectations. Developing a supportive climate conducive to learning seems to have been strongly influenced by the trainer-learner relationship. Developing trust and mutual respect between the trainer and learners during the needs analysis or the observations in the workplace seems to have made participants more engaged and willing to learn. In particular, because the trainer took an interest in the participants' work experiences, the interaction between the trainer and participants possibly helped the learners feel like they were in a protected space (Bourgeois and Nizet, 2005). A protected space is when learners share their experiences and challenges or participate actively, without fear of judgment.

Moreover, building such a relationship enables a trainer to make skillful interventions to reinforce or modify certain work techniques (Kolb *et al*., 2014), particularly communication skills in the present study. This study suggests that the trainer-learner relationship should be an individual component within the APML. This relationship is an essential component of similar models in the adult education literature (Kolb *et al*., 2014). Trainers could have an equal or greater impact on the learners' satisfaction and utility reactions (i.e., "evaluations of the relevance, practical value, and usefulness of a training course to trainees' jobs or personal/professional development" (Glerum *et al.*, 2020, p. 4)) than the training content itself (Glerum *et al*., 2020).

Third, this study suggests that when designing training (E6), activities are central to the engagement of participants and the success of the training. At present, the APML summarizes a few theories regarding training design but does not provide practical tools for designing such training. We suggest that the model be enhanced by drawing on the adult learning and workplace training literature, to be more useful to trainers not specialized in adult education.

In this study, experiences, one of the founding principles of andragogy (Knowles, 1989), and the emphasis on fun seem to have encouraged learner participation in the training. However, work experience can both obstruct and facilitate effective training. Therefore, it is important to plan activities that integrate learners' work experiences into training in ways that make that experience a valuable resource (Tourmen, 2013). In addition, because work represents a painful and constraining universe to many workers (Loriol, 2020), it is important that work training be pleasurable. Although the APML only implicitly addresses pleasure in work training, the emphasis on fun during training activities seems to have contributed to reinforcing the three psychological conditions necessary to promote commitment to training (Tews and Noe, 2019): meaningfulness, safety, and availability (Kahn, 1990). This could ultimately improve enhanced cognitive and skill-

based outcomes (Tews and Noe, 2019). In short, we suggest that the APML could discuss the role of pleasure and integrate it into designing and delivering training (E2, E6).

5.1 Strengths, Limitations, and Future Research

This case study is one of the first to examine the use of the APML in workplaces. It presents the contribution of the APML and its relevance and uses to a content expert designing a CPT. Thus, we suggest rehabilitation researchers and professionals or any content expert seeking to design a training to use such a model to ensure that their training is based on the characteristics of adult learners, their experiences, and consideration of their learning needs.

This study has a few limitations. First, all learners' participation was voluntary. In some organizations, workers may not be so willing and enthusiastic to engage in and grow from the type of training presented here. Thus, we suggest that training based on the APML be examined with non-voluntary learners to assess the mechanisms in place to support learning. Second, considering that the trainer was unpaid, it is not certain whether the organization would have agreed to participate in all the planning stages or hold the training if they had to pay for it.

Future research on the APML could focus on its use in other learning contexts or the implementation of workplace training. Future research could also focus on the precision of certain aspects of the model, such as how training methods are chosen.

6. Conclusion

This study explored the usability of the APML to develop, deliver, and evaluate a CPT for adapted transport drivers. The use of the model helped to design CPT modules that the participants

appreciated. This study suggests that assessing the needs for learning (E4), climate (E2), and consideration of training methods (E6) are essential elements of the APML to obtain a good appreciation of the training. However, time and freeing the trainees to participate in the training design and program are the main organizational constraints that can limit the full application of all the elements of the APML in the design and delivery processes of workplace training. Future research could focus on using the APML in other work organizations and its impact in a long-term implementation context.

Acknowledgments

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