Workplace Digital Essential Skills in Rural Small Businesses

Highlights

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Digital Essential Skills in Rural Small Businesses

Digital Essential Skills in Rural Small Businesses is a national pilot project that was implemented by Restigouche Community Business Development Corporation (CBDC) from January 2012 to March 2016. The aim of this project is develop a flexible training platform that increases access to basic workplace digital skills training in small rural businesses, specifically, among low literacy workers, who often lack both digital skills and suitable access to digital skills training. In response to this gap, Restigouche CBDC, in concert with a private learning software developer, created an online digital skills training platform. The design and implementation of this training model was assessed in this pilot project with a view to supporting the wider distribution of the platform in the future. The purpose of this report is to present the results of the evaluation by the Social Research and Demonstration Corporation, which assesses the success of the implementation on a number of pre-determined indicators and describes the outcomes of participants and their employers.

Project Objectives and Research Questions

The project had two primary objectives related to the implementation and effectiveness of the digital skills training model. These goals can be expressed as a series of related research questions for the evaluation:

- **Design and Implementation**: the goal was to develop a digital skills training product that is *flexible and suitable* for low literacy workers in rural small businesses. The evaluation seeks to address whether the design and delivery of this product achieved these aims, specifically, by assessing several key indicators of flexibility, suitability, and program satisfaction:
    - Did the digital skills training model provide sufficient **flexibility** for participants in terms of *options for access* and *customization*?
    - Was the digital skills training model **suitable** for low-literacy workers in a diverse range of occupations in rural organizations in terms of its *usability, content-accessibility, and autonomy*?
    - Were participants and employers **satisfied** with other aspects of the training model, such as the *extent of support offered*, or *technical* aspects of the platform?
- **Indicators of Effectiveness**: the goal was to develop a training model that would address basic workplace digital skills gaps of workers in rural small businesses in a way that supports both employee and organizational performance. The evaluation seeks to understand whether these goals were achieved by addressing questions related to a number of key training outcomes:
    - Did **participants** experience improvements in their digital skills or related outcomes such as confidence and use in information and communication technologies (ICT)?
    - Did the training model assist **organizations** in assessing and enhancing digital skills of their employees and in turn did they experience any performance gains?
    - Were there differences in outcomes based on the **context or characteristics** of workers, their jobs, or their employers and workplaces?

Workplace Piloting Process

The piloting of the digital skills training program was completed with a total of **67 employees in nine rural small and medium-sized enterprises.** The piloting was an intrinsic part of the project's research program as well as the product development process, as data was collected throughout to inform not only the evaluation but also future revisions to the platform. It was conducted in three primary phases:

- **"Baseline" Pre-Training Activities:** included employee and employer briefing sessions, administration of the Canadian Adult Achievement test to measure literacy levels, and the pre-training employee and employer research surveys.
- **Training Workshops:** included activities related to managers' registration of employees and their assignment to the various workplace digital skills training workshops; pre and post-training digital skills assessment tests for employees; and participation in the online training workshops themselves (three of five workshops were piloted) – in total, involving up to a maximum of five hours of access to the platform.
- **Post-Training Research:** included the administration of post-training employee and employer surveys to measure supplementary outcomes beyond those assessed through the platform.

Key Findings

Indicators of Implementation Success

Flexibility: *Did the digital skills training model provide sufficient flexibility for participants in terms of options for access and customization?*

Indeed, participants valued the flexibility in access to the platform at both different times and in different locations. When asked at the end of each workshop what they liked about the training, over a third (35%) of participants in Workshop 2 – and all participants (100%) in Workshop 3 – said they liked the ability to take the training *when they wanted*. Furthermore, 39% of those in Workshop 2 and 80% in Workshop 3 said they liked *flexibility in location*.

In terms of accessibility, a relatively large proportion of participants – far in excess of traditional workplace LES training models – made use of the training platform outside work. About a quarter of participants (23%) said that they used the platform outside their normal work location and time – which is more than double the rate expected (10%) from traditional workplace LES training models (Gyarmati et al., 2014).

With respect to customizability, a sizable majority of participants valued being able to customize parts of their training experience, such as the ability to retake parts of a workshop. 89% of respondents in workshop two and 75% in Workshop 3 said that they liked — either somewhat or a lot — the ability retake part of a workshop. The responses were similar for retaking a test: 89% and 88% of Workshops 2 and 3, respectively, said they liked this feature.

Suitability: *Was the model suitable for low-literacy workers in a diverse range of occupations in rural organizations, in terms of its usability, content-accessibility, and autonomy?*

Indeed, participants reported the platform as highly usable in terms of its navigability and the level of comfort they experienced – thus meeting a major objective of the program. Four in five participants said that it was easy to navigate the platform while a similar proportion said that they felt comfortable during the training.

Most participants also found the training content to be highly accessible in terms of clarity and ease of understanding At least 85% of participants in each workshop said that they found the language used on the platform easy to understand. Furthermore, when asked in the follow-up survey, after all workshops were complete, 71% of participants felt they understood the content of the training well.

In terms of autonomy, results indicate that the training platform is suitable for independent learning for a majority of participants. Almost two thirds of participants (64%) somewhat or strongly agreed with the statement, "I was comfortable with having to do the training on my own." While only about 15% of participants took the training on their own *most* of the time, almost half (42%) took it on their own at least *some* of the time.[1] Taken together with the fact that participants reported the platform as highly usable, the training content as highly accessible – and given that a large proportion made use of the platform outside of work – these results suggest that the training platform is, indeed, suitable for independent learning for a majority of participants. At the same time, given there are no well-established benchmarks for appropriate levels of autonomy for online learning, participants' preferences provide a reasonable guide – and suggest that while flexibility in access is certainly important, independence of learning may be less important to participants.

Satisfaction: *Were participants and employers satisfied with other aspects of the training model, such as the extent of support or technical aspects of the platform?*

Large proportions of participants reported being happy with all aspects of the training, particularly, with the assistance provided by the Guide and the Instructor. Large proportions were happy with the help provided by the Instructor and the Guide, the computer hardware, the assessments and survey on the platform, and the training overall.

In terms of speed of the platform, conclusions are difficult to make. Only about half of participants said they were satisfied with the speed of the platform; however, it is unclear whether this relates to constraints with the software itself, or with the available hardware participants were accessing it from, and/or issues with having access to high-speed internet in the workplaces. One

[1] The fact that participants were involved in a pilot project may have led to higher levels of interaction with Instructors than would otherwise be the case in a wider non-pilot implementation of the platform. The piloting of the training platform was done in group sessions facilitated by Instructors with the aim of not only supporting learners, but also to gather information about bugs and possible improvements. It is therefore understandable that many participants interacted with the Instructor and their colleagues and that only a minority completed workshops on their own.

factor that must be recognized is that the platform being used in the piloting was a Beta version, and so the final version would be programmed to ensure maximum performance in terms of speed. Concerns were expressed by participants in regards to Internet connections in some of the testing sites. This would suggest the future need to work with employers and developers to ensure participants have access to high-speed internet and sufficient hardware.

Satisfaction among employers with key components of the training platform was fairly high, with some provisos. Most employers were satisfied with such elements as managing the organization's training program through the platform, assigning workshops to employees based on need, and monitoring employee progress. However, more than half of the participating organizations recommended improvements in technical support and navigation instructions. Indeed, in the full-production of the training model, a manager instruction manual will be provided, which should address these concerns.

Indicators of Training Effectiveness

Participant Outcomes: *Did participants experience improvements in their digital skills and related outcomes such as confidence and use of ICTs or their attitudes towards education and training?*

One of the primary objectives of the training program was, indeed, met – to effectively enhance digital skills of participants. Participants in the training program realized large DES gains, as measured by the platform assessments. A comparison of the results of the pre- and post-training assessments revealed average gains of between 34 and 37 points (on the 100-point platform scale) across the three workshops. A substantial proportion experienced gains of over 20 percentage points in each learning step of each workshop (as much as 70 points on one learning step). Very few participants experienced no gains at all.

The project was successful in enhancing the skills of those at the lower end of the literacy distribution, thus meeting an important objective of the project to meet the needs of lower-literacy workers. Average skills gains in Workshop one were 47.2 percentage points among those in the lower literacy group (Level 2 or less) compared to 32.5 percentage points among those in the higher literacy group (Level more than 2), a statistically significant difference. The research also demonstrated that the training helped those with lower educational credentials, with slightly higher average gains than those with higher educational credentials.

There were positive ICT outcomes for a significant proportion of training participants, thus fulfilling another major objective of the project. The proportion of participants who reported being confident with ICTs increased significantly over the course of the training, from 59% to 70%. ICTs also appeared to be a large part of more participants' jobs. When asked whether ICTs were a large part of their work, the proportion of participants who agreed rose from 39% at baseline to 50% at follow-up.

Importantly, confidence in using ICTs also increased in contexts outside of the workplace. The proportion of participants expressing confidence in their use of ICTs increased quite dramatically for several non-work related tasks including searching for information at home and in

helping with their children's homework: from 62% and 20% expressing confidence at baseline, respectively, to 76% and 33%, respectively, after training was complete.

Attitudes towards education and training were very high before and after the training. A large proportion of participants demonstrated positive attitudes to education before the training began. For the most part, these were maintained at high levels after the training, often in excess of 90% of participants exhibiting positive attitudes. A majority of employers also reported that the digital skills training positively affected the level of interest and engagement in work-related training in general and digital skills training in particular, both for themselves and among their employees.

Organizational Outcomes: *Did the training model assist organizations in assessing and enhancing digital skills of their employees and in turn did they experience any performance gains?*

Employers provided corroboration of the observed gains in digital skills and ICTs of participants. The majority reported observing improvements in their employees' digital skills and ICT proficiency. Moreover, most of those who reported these gains also attributed them to the DES training platform rather than other factors or activities within the organization.

A majority of employers also reported that the digital skills training positively affected attitudes within their organization towards work-related and digital skills training. Owners/managers were asked to judge the effect of the DES training on their own attitudes and those of their employees' toward training. The results indicate that the majority of organizations felt that the program had a positive effect on their own attitudes toward digital and general training, as well their employees' interest participation in general and digital skills training.

While some employers reported positive improvements in various performance measures particularly in regard to human resource measures, very few would attribute these changes to the digital skills training. This is not entirely unexpected, given that the post-training surveys were administered to employers immediately following the end of the training and therefore would have allowed very little time to observe effects on organizational outcomes. Future projects should allow for a longer follow-up period in an effort to assess longer-term outcomes for organizations.

Context, Subgroups: *Were there differences in outcomes based on the context or characteristics of workers, their jobs, or their employers and workplaces?*

An analysis of subgroup differences confirms that those with lower literacy or ICT skills, can indeed, benefit from digital skills training – and often to a greater extent than those with higher levels. Results indicate that gains in digital skills were about 15 percentage points larger for those with low levels of pre-training literacy (levels 1 or 2 compared to 3 or above). Similarly, participants in the lower end of the ICT skill distribution before training experienced average gains of 47.3 percentage points in digital skills compared to 32.5 percentage points among those with higher starting ICT levels.

Outcomes of a digital skills training intervention can also vary in important ways based on the demographic characteristics of participants. For instance, with respect to the language of the participant, French speakers experienced an average gain of 46 percentage points in digital skills compared to 22 percentage points for English speakers in the first workshop.

Importantly, outcomes can also vary based on participants' motivation for training, their understanding of its goals, and perceived levels of support they have from their employer. On a composite measure of participant motivation and employer support, results indicate that those with higher motivation and perceived support before training, experienced average digital skills gains of 41.9 percentage points compared to those in a lower motivation and support group of 29.1 percentage points. This underlines the importance of ensuring that employees and employers have a shared understanding of the goals of training and are solidly motivated and engaged in the training process from the onset.

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