

# Online In-service Teacher Professional Development in Malaysia: A New Possibility?

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**Abstract:** Predominant forms of INSETT available have been known to be inflexible in terms of time and resources, not meet teachers' actual needs, cause a loss of instructional time with students, and not incorporate sustained collaborative endeavors, nor offer further support after the program. In view of the increasing successful utilization of online in-service teacher professional development in complementing traditional forms of INSETT in other countries such as the USA, it is time that Malaysia seriously considers similar innovations. As such the purpose of this paper is among others, to examine (1) factors that would cause them to consider participating in online INSETT programs, (2) ICT self-efficacy, and (3) perceived value of various ICT tools for future professional development. Findings indicate that the in-service teachers sampled in this study were generally positive about online INSETT and appeared ready in terms of basic ICT competencies.

## Introduction

According to Cooper (2008), the terms “staff development”, “in-service training”, and “professional development” are often used interchangeably; all of which have the objective of updating in-service teachers' knowledge and skills as well as inculcating positive attitudes that bring about improvement in the teaching learning process. Whatever the term and subsequently the definition, there is no denying that in-service teacher training (INSETT) is an integral component of continuous teacher professional development (TPD) and that it will remain so for the years to come. Various programs are organized annually by the various government education departments and agencies so that teachers have the opportunity to gain knowledge and skills that will help them to become effective teachers and to enable them to grow professionally.

Different countries in the world have different policies as to the amount of time allocated for TPD per year. The 2009 report on Teacher Development in the United States and abroad indicates that teachers in countries such as the Netherlands, Singapore and Sweden are provided with the most opportunities to attend TPD programs, that is, a minimum of 100 hours per year. In comparison, the majority of teachers in the United States received less than 16 hours of professional development on the subject matter they taught (Darling-Hammond, Chung, Andree, Richardson & Orphanos, 2009). Where do Malaysian teachers stand in this line-up? Currently in Malaysia a period of seven days or 56 hours of professional development is allocated for INSETT per year. Predominant forms of INSETT available in Malaysia include workshops, seminars, conferences and courses.

Differences in the allocation of time aside, one particular aspect that is common in most TPD activities is that prevailing programs have time and time again been criticized for not fulfilling the objectives planned because of a lack of coherence and flexibility in structure. TPD have widely been described as “pull-out programs”, “one-shot programs”, “superficial”, “fragmented”, “quick fix”, “disconnected”, “episodic” and “lacking in follow-through”. They have also been known to be inflexible in terms of time and resources, not meet teachers' actual needs, cause a loss of instructional time with students, and not incorporate sustained collaborative endeavors, nor offer further support after the program. That should not be the case, but it happens, neither in isolated cases nor once in while but occurs across various professional settings, most of the time.

Perhaps, it is not so much that TPD providers fail to recognize the need to design and implement effective practice, but more likely that intensive and sustained TPD is difficult to design, plan and manage based on traditional modes of TPD available and the vast number of teachers who need to undergo professional development annually. If twelve years ago, the US Department of Education (1996) declared that “No one can afford to waste time or money in designing, implementing, and paying for ineffective practice”, it is even more critical at this point in time as the world faces an economic slow-down that we make sure every cent, every minute and every ounce of energy we invest into TPD translates into long-lasting, effective practice in the classrooms. As the Center for CSRI (2006) aptly puts it, “Taking professional development to the ‘next level’ is about establishing a mindset that focuses on ongoing learning and encourages continuous self-reflection. In this way, teachers move beyond a traditional definition of professional development and begin to establish a true learning community” (p.3).

In light of significant ground-breaking contributions of technology in the education sector, Grant (n.d.) as cited in NCREL (n.d.) puts forth the inevitable scenario where technology plays a vital role in professional development” in the definition that follows:

"Professional development ... goes beyond the term 'training' with its implications of learning skills, and encompasses a definition that includes formal and informal means of helping teachers not only learn new skills but also develop new insights into pedagogy and their own practice, and explore new or advanced understandings of content and resources. [This] definition of professional development includes support for teachers as they encounter the challenges that come with putting into practice their evolving understandings about the use of technology to support inquiry-based learning.... Current technologies offer resources to meet these challenges and provide teachers with a cluster of supports that help them continue to grow in their professional skills, understandings, and interests."

Even as online learning has been incorporated to help address the educational needs of our students, it is time that a change be initiated and embraced in the landscape of Malaysian teacher professional development with the use of the more flexible and supportive online mode to complement traditional forms of TPD. We need to heed the call to develop a more “coherent, comprehensive and innovative approach to professional development.” (US Dept of Education, 1996)

According to EDC (2000), “the impact of online professional development (OPD) workshops is maximized when they are thoughtfully integrated into an overall program of professional development to complement and enhance other means of professional development”. Therefore, in paving the way to new frontiers in the policy and practice of future TPD in Malaysia, research needs to be carried out to examine firstly the extent to which in-service teachers are receptive towards the use of online activities in complementing INSETT programs as well as their belief and self-efficacy in using ICT for professional development.

## **Components of TPD**

Three categories of factors that are widely recognized to have a great influence on the quality of professional development are the content, process, and context factors. A synthesis of definitions and descriptions by Cooper (2008), Harwell (2003) and CONNECT (1997) is as follows:

Content variables are the “what” of professional development; primarily the new knowledge and skills to be imparted to teachers undergoing professional development. It ranges from subject matter knowledge, classroom management skills, education and general matters related to the teaching profession, monitoring student work, measuring, identifying and addressing gaps in student achievement, and instructional strategies.

Process variables refer to the “how” of professional development; the ways activities are planned, organized, carried out and followed up. They have to do with the design, the application of human learning and change, opportunities for interaction, collaborative, and extended learning as well as opportunities for teachers to try new behaviors in safe environments and receive feedback from peers. Meanwhile, context variables look into the “when”, “where”, and “why”. Amongst others, they entail resources, leadership, shared sense of need for change, and learning communities.

## **Effective TPD**

CONNECT (1997) describes professional development as a dynamic and fluid process. Consistent with that, research suggests that TPD programs which are effective and more likely to build teachers' capacity are those which are intensive, on-going, connected to practice, and offer extended support, as well as extended opportunities for collaboration and constant communication with experts or competent practitioners (Darling-Hammond et al., 2009; Schwandt & Tobin, 1999).

Harwell (2003) observes that "sustained, systematic professional development programs that unfold as processes over time are generally superior to individual workshops and seminars, which are one-time events" (p. iii). She emphasizes that teachers have to be given opportunities to practise what they learn over relatively extended periods of time, and be provided with an environment that encourages interaction among participants. Having the same opinion are Garet, Porter and Desimone (2001) who strongly believe that a coherent teacher learning and development program with several activities that are connected one to another is more likely to produce long-lasting effects as compared to programs that disconnected.

Related to that, a dimension of coherence that emphasizes the process of continuous learning and helps motivate teachers become life long learners is creating and sustaining on-going professional conversations among teachers and between teachers and the experts. Boling and Martin (2005) concur in saying that support that is made available to teachers in the form of professional communication and exchange help facilitate change successfully. Similarly, EDC (2000) reiterates the importance of teachers socially constructing knowledge by engaging in a "community of practice" also known as a "learning community". This underlines the fact that extended conversations via a network of human resources is able to contribute much to teachers' learning as printed material or electronic resources traditionally handed out during TPD.

A meta-analysis of existing research and related literature by Sparks and Loucks-Horsley as reported in Rollins (2004) also emphasizes on-going support and feedback, a wide range of resources and assistance on request as several characteristics of effective professional development practice. Besides that, it was found that teachers benefit more when they are actively involved in planning, setting goals and selecting activities. As such, it is high time that teachers being the professionals that they are, be given a say in the design and delivery of TPD programs. They know what they need and why they need it, and how they themselves learn best. It would not be wrong to say that they also are the best people to determine where and when they find learning most appropriate and effective.

Literature also indicates that self-efficacy is a major predictor of adoption of innovation (Olivier & Shapiro, 1993; Kortz, 2001 as cited in Kortz & Nath, 2001). In relation to this, Moersch (1995) suggested that people with high levels of self-efficacy in using technology "are most inclined to accept change" (p. 41). Literature further suggests that, teachers' personal beliefs about the consequences of adopting technology affects their attitudes which in turn influence technology adoption decisions (Sugar, Crawley & Fine, 2004).

## **Online TPD and its Reported Benefits**

Online learning is increasingly being hailed as a viable means of providing professional development and facilitating teacher change (Boling & Martin, 2005; Dede, 2006). Harwell (2003) maintains that online professional development provides a level of convenience that conventional professional development does not. The varied types of communication and interactions made available through online technologies such as synchronous "chats" and asynchronous discussion boards, e-mailing, use of listservs, online tutorials and lectures through print, audio and video and the very flexible option of combining several features in a program promotes multiple modes of learning through reflective interactions, self-paced explorations, and collaborative work (EDC, 2000). Further, teachers are able to participate in real time, over an extended period of time and on an on-going basis.

Two benefits that teachers perceive to be most important in participating in online TPD include time and setting flexibility. Boling and Martin (2005) report that teachers appreciated that, "They did not need to travel, write substitute lesson plans, or change their schedules ... (and that they were) able to work in their classrooms or at home and at their own pace. Teachers enjoyed the freedom of learning online." (p.11). Dede, Ketelhut, Whitehouse, Breit, and McCloskey (2009) also see the tremendous potential afforded by online technologies in that resources often not

available locally can be made available and that “teachers who tend to be silent in face-to-face settings ‘find their voice’ in mediated interaction” (p.9).

## **Research Questions**

This study attempted to answer the following research questions:

- (1) Do in-service teachers think that online INSETT activities could enhance their professional development?
- (2) What factors would cause in-service teachers to consider participating in online teacher professional development activities?
- (3) What are the in-service teachers’ ICT self-efficacy?
- (4) To what extent do in-service teachers believe they are able to participate in online professional development activities successfully?
- (5) To what extent do in-service teachers perceive various ICT tools as valuable for future professional development?

## **Research Objectives**

The purpose of this study was to examine in-service teachers’

- (1) Belief whether online INSETT activities could enhance their professional development,
- (2) Perception on factors would cause them to consider participating in online teacher professional development activities,
- (3) ICT self-efficacy,
- (4) Belief of their ability to successfully participate in online professional development activities, and
- (5) Perceived value of various ICT tools for future professional development.

## **Significance of the Study**

The findings from this exploratory study is expected to be the starting point for further research into the development of an online teacher professional development model suited to Malaysian INSETT context. It may be used to inform the design and implementation of OTPD programs that meet the needs and expectations of in-service teachers.

## **Limitation of the Study**

This study is based on samples from only one urban educational district. As such, the findings may not be generalized to the in-service teacher population in Malaysia.

## **Methodology**

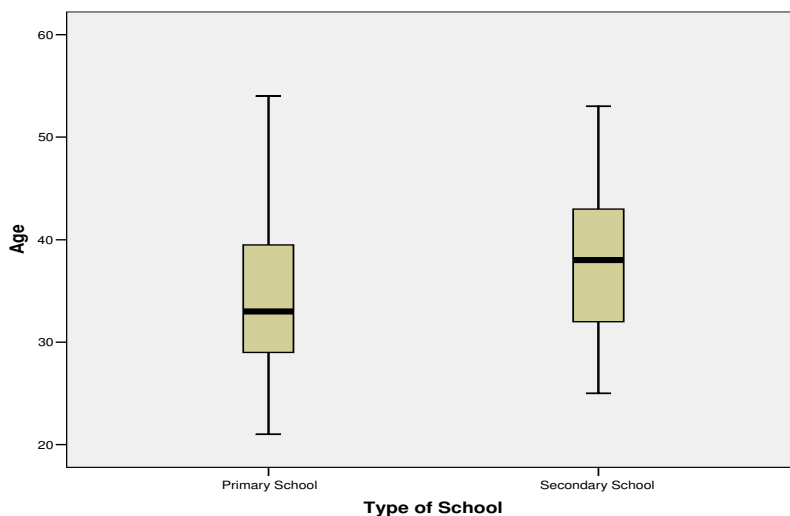
### **Sample**

The sample for this study consisted of primary and secondary school in-service teachers from an urban educational district. Out of a total of 550 primary school teachers and 500 secondary school teachers teaching in the district, 218 primary school teachers and 172 secondary school teachers completed the questionnaire. This gives confidence levels very close to 90 percent for the two samples.

Level of qualification	Primary School		Secondary School	
	Frequency	Valid percent	Frequency	Valid percent
Certificate	20	9	0	
Diploma	73	34	19	11
Bachelor	118	55	137	80
Master	3	2	16	9
Missing	4		0	
Total	214	100	172	100

**Table 1:** Analysis of respondents according to level of qualification

Analysis of respondents according to level of qualification indicates that the majority of them hold a Bachelor's degree. Meanwhile, the median ages for the primary and secondary school teachers were 33 years old and 38 years old respectively. The range for primary school was 21 to 54 years old while that for the secondary school was 25 to 53 years old. Figure 1 shows the box plots for age of respondents according to category of school.



**Figure 1:** Analysis of respondents according to age

### Research Design and Instrumentation

The survey method was used and data were collected by means of a written questionnaire that was piloted with a similar sample (n=33) from another state. The reliability coefficient (Cronbach's alpha) computed was .93 with positive item-total correlations for all items. Four items in the questionnaire which relate to the teachers' perception of previous INSETT experiences were not used for discussion in this paper.

The choice of responses for the various items is as follows:

- (1) Yes, No or Maybe for "Teachers' belief whether online INSETT activities could enhance their professional development";
- (2) Five-point Likert scale (1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree and 5 = Strongly Agree) for "Factors that would cause in-service teachers to consider participating in online teacher professional development activities" and "Perceived value of various ICT tools for future professional development";
- (3) Five-point Likert-type scale (1=Very Low, 2= Low, 3= Average, 4 = High, 5= Very High) for in-service teachers' ICT self-efficacy, and

- (4) Five-point Likert-type scale (1= Strongly Disagree, 2 = Disagree, 3 = Not Sure, 4 = Agree and 5 = Strongly Agree) for “In-service teachers’ belief of their ability to successfully participate in online professional development activities”.

### Data Collection and Analysis

The questionnaires were handed to school administrators in the education district by the researchers. The instruments were then distributed to their respective teachers who answered the items at their free time. The completed questionnaires were then collected back in person by the researchers from the school administrators after two weeks. Data were analyzed using descriptive statistics such as mean, standard deviation, frequency and percentage.

## Findings

### Belief whether online INSETT activities could enhance in-service teachers’ professional development

Response	Primary School		Secondary School	
	Frequency	Valid Percent	Frequency	Valid Percent
Yes	116	55.0	75	43.9
Maybe	76	36.0	72	42.1
No	19	9.0	24	14.0
Total	212	100	171	100

**Table 2:** Response on whether online INSETT activities could enhance in-service teachers’ professional development

A large portion of the teachers surveyed were of the opinion that online INSETT activities could enhance their professional development (55.0 percent for primary school teachers and 43.9 percent for secondary school). The numbers who did not think so were substantially less at 9.0 percent for primary school and 14.0 percent for secondary school while 36.0 percent and 42.1 percent respectively were ambivalent about the idea. Overall it could be seen that the primary school teachers seem to be more positive than negative about the viability of online INSETT activities in contributing towards their professional development.

### Factors that would cause in-service teachers to consider participating in OTPD activities

From Table 3, it can be seen that hope of sharing ideas and experiences online seem to appeal the most to both primary and secondary school teachers (means of 4.12 and 4.22 respectively on a five-point Likert scale). This is followed by collaborating with other teachers for both categories of respondent (means of 4.06 and 4.16 respectively). This finding lends support to what literature say about professional conversations being the motivating factor for life-long learning among teachers.

The next three factors that the in-service teachers felt would cause them to consider participating in online teacher professional development activities are (1) Obtaining peer support, (2) Eliciting expert feedback/advice, and (3) Maintaining instructional time. The least appealing factor for both categories of schools appear to be “Participating over an extended period of time” with a mean of 3.55 for primary school and 3.48 for secondary school. “Participating anytime and anywhere” also lie at the bottom rungs for both categories of school. Although the means obtained for these factors are still considered positive (meaning the teachers consider them important), it is rather surprising that these teachers deemed time and spatial constraints as the least of factors that would cause them to consider participating in online professional development activities.

Item	Primary School		Secondary School	
	Mean	S.D.	Mean	S.D.
Obtain peer support	3.99	.63	4.11	.61
Elicit expert feedback/advice	3.99	.62	4.07	.61
Share ideas/experience	4.12	.65	4.22	.60
Able to collaborate with other teachers	4.06	.67	4.16	.57
Maintain instructional time	3.97	.73	4.13	.68
Can participate anytime	3.79	.70	3.74	.73
Can participate anywhere	3.85	.68	3.88	.67
Can participate over an extended period of time	3.55	.75	3.48	.80

**Table 3:** Factors that would cause in-service teachers to consider participating in online TPD activities

### In-service Teachers' ICT Self-efficacy

Table 4 shows data obtained on the respondents' ICT self-efficacy for both primary school and secondary school. Generally, it appears that the primary school teachers are more ICT-savvy as compared to the secondary school teachers. The skill that recorded highest percentage for below average competency is "Participating in online forums". On the other hand, more than 80 percent of the respondents from both categories of schools claimed to be of at least average competency for the rest of the ICT skills examined:

- (1) Using Internet search engines,
- (2) Saving information from websites visited,
- (3) Sending e-mail to a person,
- (4) Attaching a document to an e-mail,
- (5) Using Internet search engines, and
- (6) Saving documents in different formats.

ICT skill	Primary school (%)				Secondary School (%)					
	Very high	High	Average	Low	Very low	Very high	High	Average	Low	Very low
Send e-mail to a person	21.4	38.6	34.0	4.2	1.9	21.5	34.3	33.7	6.4	4.1
Send e-mail to several people at the same time	20.0	37.7	34.9	5.6	1.9	20.3	29.1	33.7	9.9	7.0
Attach a document to an e-mail	18.2	38.3	31.8	9.3	2.3	21.2	30.0	27.6	11.2	10.0
Use Internet search engines	27.3	48.6	20.8	2.8	0.5	27.3	35.5	27.9	5.2	4.1
Save information from websites visited	20.0	42.3	32.6	4.7	0.5	18.6	36.6	31.4	8.7	4.7
Save documents in different formats	13.4	39.4	36.6	7.4	3.2	16.9	24.4	35.5	12.2	11.0
Participate in online forums	14.9	27.0	40.0	13.0	5.1	13.4	15.1	35.5	24.4	11.6

**Table 4:** In-service teachers' ICT self-efficacy

### In-service teachers' Belief of Their Ability to Successfully Participate in OTPD

Findings as shown in Table 5 indicate that 64.6 percent of the primary school teachers sampled felt that they would be able to participate successfully in online professional development activities while 45.2 percent of the secondary school teachers believed so. The percentages of teachers who did not seem to think that they would be able to participate successfully are 4.7 percent (primary) and 13.1 percent (secondary). The percentages of those who were not sure are 30.5 percent (primary) and 41.7 percent (secondary).

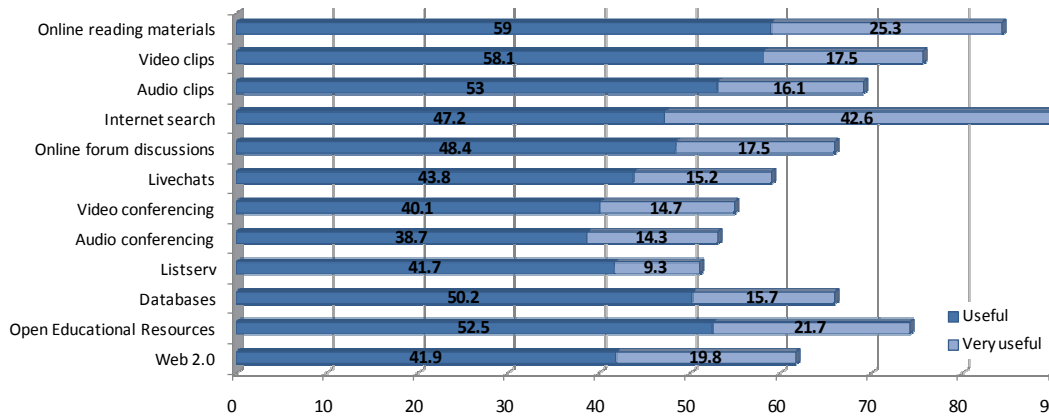
Response	Primary School		Secondary School	
	Frequency	Valid Percent	Frequency	Valid Percent
Strongly Agree	11	5.2	2	1.2
Agree	127	59.6	74	44.0
Not Sure	65	30.5	70	41.7
Disagree	7	3.3	16	9.5
Strongly Disagree	3	1.4	6	3.6
Total	213	100	168	100

**Table 5:** In-service teachers' belief of their ability to successfully participate in online TPD activities

**Perceived Value of Various ICT Tools for Future Professional Development**

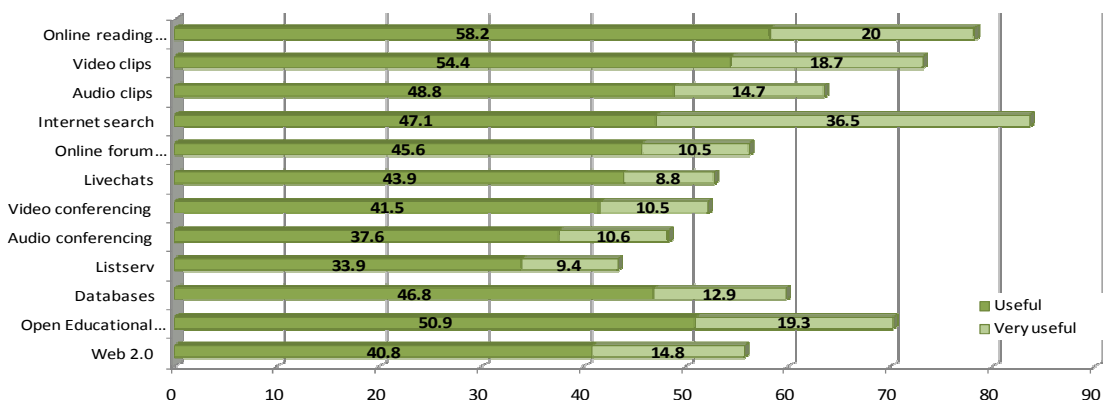
Figure 2 and Figure 3 show the analyses of the percentage of respondents who considered the ICT tools as useful and very useful for future professional development. Findings indicate that the top five ICT tools deemed most useful by both the primary and secondary school in-service teachers are:

- (1) Internet search engines,
- (2) Online reading materials,
- (3) Open educational resources,
- (4) Video clips, and
- (5) Audio clips.



**Figure 2:** Perceived value of various ICT tools for future professional development (Primary school teachers)





**Figure 3:** Perceived value of various ICT tools for future professional development (Secondary school teachers)

## Conclusions

Based on the findings of this study, it appears that since the in-service teachers were more positive than negative about the use of online INSETT activities to enhance their professional development coupled with the fact that they believed that they would be able to participate successfully, the idea of using online INSETT professional development activities should certainly be viewed as a possibility, at least in this urban educational district. If online INSETT could be tailored such that there is ample avenue for teachers to share ideas and experiences online as well as collaborate with teachers in other schools on projects that are of common interest, such activities should be able to garner much interest from the teachers since those were the two top-rated factors identified as those which would cause them to consider taking part in online INSETT activities.

Further, since findings indicate that at least 80 percent of the teachers sampled seemed to believe that they were competent in basic ICT skills of e-mailing, saving documents, attaching files, using search engines, and saving information from websites visited, the teachers should be able to participate successfully in online INSETT programs which require such skills. In relation to this, perhaps there may be a need to have introductory sessions on how to participate in online discussions since the level self efficacy for this skill is rather low with a total of 18.1 and 36.0 percent of the teachers in primary and secondary schools respectively reporting that their competency was either low or very low.

In addition, the top five ICT tools deemed most useful by both the primary and secondary school in-service teachers namely Internet search engines, online reading materials, open educational resources, video clips, and audio clips could be incorporated in future online INSETT activities to enhance the in-service teachers' professional development.

## Recommendations for Further Research

Similar studies should be conducted in rural school districts and other urban school districts to examine if a similar trend exists in such schools. Also, in an attempt to introduce online INSETT programs in Malaysia, teacher professional development authorities ought to design and develop activities based on the needs and ICT competency levels of the general population of in-service teachers. Pilot programs should be conducted and exploratory research carried out to examine the viability and effectiveness of online INSETT programs as well as the level of satisfaction amongst these teachers. After that, based on results, the programs can be further fine-tuned or adjusted before implementing them on a full scale.

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