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Components of teacher leadership in the modern learning management

Nutdaya Kanphao[1], Terdsaak Supandee[1] & Pennapa Sukserm[1]

[1]Faculty of Education and Human Development, Chaiyaphum Rajabhat University, Thailand

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ABSTRACT

This research aims to investigate the components of teacher leadership in modern learning management. The instruments used in the study include in-depth interviews, semi-structured interviews, and a researcher-made questionnaire for data collection. Content analysis was used to analyze the data. The research findings revealed 5 components of teacher leadership in learning management: 1) Technological literacy, which includes knowledge, skills, and attitudes toward basic technology and the promotion and development of technology; 2) Teamwork, which involves setting clear, shared goals, defining roles, and assigning tasks so that team leadership is actively involved; 3) Enhancing research literacy, which refers to knowledge, skills, and attitudes toward research; 4) Creative learning management, which involves designing learning through different methods to encourage and support learners to be innovative and share knowledge with each other, as well as assessing learners to reflect on their thinking and improve through different methods; and 5) Active leadership in learning management, which involves practical exercises, building learning networks and understanding assessment methods for learning.

Corresponding Author:
Nutdaya Kanphao
Faculty of Education and Human Development
Chaiyaphum Rajabhat University
Thailand
Email: nutdaya2525@gmail.com

1. INTRODUCTION

The new normal has led to significant changes in all aspects of life worldwide, including educational models and systems (Dithian & Yusamran, 2021). Learners now have the freedom to shape their learning path according to their interests. This has transformed the role of educational technology, which emphasizes not only the selection or development of tools to improve efficient learning, but also the promotion of diverse learning, the reduction of

inequalities and the improvement of equal access to education. This is achieved through the selection and development of tools that meet the primary goals of national development. This shift presents challenges to the global education system that educators and policy makers need to fully understand.

Teachers play a role as coaches in developing learners' potential through three aspects: Engagement, empowerment and invigoration. Teachers should design activities that reflect learners' development and emphasize practical application, leading to active learning processes in which students engage in various activities through writing, speaking, listening, reading and reflecting on discussions. This encourages knowledge building rather than passive learning and is characterized by promoting thinking processes, practical participation, collaboration and knowledge building through various activities prepared by the teachers. Learning should emphasize the role and participation of learners by incorporating various teaching methods and techniques in the design of learning plans and activities to encourage learners to apply skills and link knowledge to solve problems or pursue future careers. This type of learning supports the development of learner characteristics that align with today's changes (Prathumwan, 2023).

Creative learning is a modern approach based on creativity and growth mindset that helps teachers develop learning activities that meet the needs of learners. It promotes deep learning, i.e. a comprehensive and precise understanding. Creative learning means nurturing learners' potential through creative activities, with teachers acting as coaches who mentor learners and encourage them to realise their full learning potential. It is in line with current learning requirements and focuses on promoting deep learning. In the age of the new normal, learners have their own learning space where they can use their creative skills for personal and collective benefit. The joy of learning and giving is at the centre of developing future learners who engage in thoughtful and useful self-directed learning. New Normal educators foster creative learning through varied activities that respond to the nature and needs of students and guide them with love and empathy. They carefully monitor thinking and learning processes and help students gain correct understanding while practicing basic learning skills and advanced thinking processes (Wongyai & Phatthaphon, 2020).

The state of education research and development in Thailand is not as widespread as it should be and is not able to effectively utilize research and development results or innovations to improve the quality of education. Kaemmani (2010) noted that educational research in Thailand has steadily increased over the past three decades, initially due to researchers' interest, resulting in scattered studies. Later, efforts were made to compile research data to provide an overview of the state of research in Thailand. The synthesis of the research revealed that most of the studies were dissertations and conducted by educational institutions. The majority were applied research studies, while basic and developmental research remains minimal at less than 1% (Sitthiamorn et al., 2016).

Teamwork is an important quality for students because giving them the opportunity to learn teamwork helps to build knowledge and understanding so that they can adapt to others and grow into quality human resources in society (Malaiwai et al., 2022). Teamwork behavior is influenced by the individual, society, and environment and can be classified into several groups, such as situational factors, inherent psychological traits, and situational psychological traits. Teamwork is crucial as individuals have different abilities and potentials, but can work

together as a team to achieve success and fulfill mental needs, developing themselves by learning from others. This will enable effective collaboration in the future and reduce potential problems.

In the current state of learning management in educational institutions, information technology is changing rapidly in all aspects, which means that the use of technology in learning management varies according to the institutional context. Educators and learners seek to creatively integrate technology to enhance and improve development. Creativity is inherently present in everyone, but its nurturing and development requires time, skill, and experience in faculty designing of learning management that reflects student development in learning and emphasizes real-world applicability to ultimately foster creative learning processes.

The Thai education system still has weaknesses, especially in encouraging students' creativity. Students are taught to memorize and score high for exams, but rarely to think critically and innovate or expand local wisdom. Most students are reluctant to think, question or argue differently from what teachers teach. Divergent thinking is often perceived as argumentative, aggressive and disrespectful (Duanginta & Renliang, 2022).

The Thai education system is still familiar with traditional learning management that emphasizes one-way knowledge transfer by the teacher, known as teacher-centered learning. This approach is unable to equip learners with the essential qualities they need to seek and filter knowledge on their own. Therefore, teachers need to adapt their teaching and learning management methods to changes in society, technology and student learning. They should evolve from being mere transmitters of knowledge to being guides who show ways to explore and acquire knowledge and help students develop the ability to seek knowledge and apply various skills to understand through meaningful learning.

It is crucial to educate the youth of this country so that they grow up to be talented, virtuous and happy people who are able to think, act and solve problems efficiently. They should be able to think concretely and adapt to the changing world while becoming good Thai, ASEAN and global citizens. Active learning is probably an appropriate approach to meet the demands of the 21st century, the era of change.

It is also an appropriate approach to meet the demands of the 21st century, the era of change. Furthermore, teachers should use research as a guide to develop and reform their teaching practices. Research literacy is critical for teachers to improve their work and explore the most effective strategies that align with their practice. Teaching cannot be separated from research because teachers inherently understand the challenges of their teaching work better than anyone else. They are looking for ways to improve the quality of learning management (Pothiyan, 2021).

When working in teams, we often find that some people are careless and always take advantage of others. This happens when certain team members refuse to make an effort or fully engage in the team work. For example, when preparing a group report, some members are thinkers and planners, some are coordinators, some take care of logistics, and some just add their name to the report without contributing anything but still get credit. Many Thais tend to tolerate this behavior. Even when lifting heavy objects, some exert themselves, while others barely exert themselves, pretending to work hard but actually contributing very little. This

freeloading behavior causes resentment as many prefer not to work with such individuals on future projects (Sakkaravich, 2018).

As education researchers, there is an interest in examining the components of teacher leadership in modern learning management in order to develop strategies and planning for leadership development that are tailored to local circumstances.

2. METHOD

In this study, the researcher used a mixed methods research approach and conducted the study in three steps:

Step 1: Review of 15 sources of relevant documents and research papers to summarize the components of teacher leadership in modern learning management.

Sources: Documents and research papers related to the concept and theory of the components of teacher leadership in modern learning management.

Data collection instrument: a content synthesis form created by the researcher.

Data analysis: the researcher analyzed the data using inductive analysis.

Step 2: Investigating the components of teacher leadership development in modern learning management.

Participants: Five exemplary teachers were selected based on criteria such as excellence in arts and craft competitions for students at the national level, receiving the Princess Maha Chakri Award for outstanding contributions to education, and receiving national awards for integrated life skills teaching.

Data collection instrument: A semi-structured interview form.

Data analysis: The researcher analyzed the interview data using inductive analysis.

Step 3: Survey of current problems and needs and analysis of required needs for the development of teacher leadership in modern learning management.

Population: 5,038 teachers from the primary education sector of Chaiyaphum Province for the 2023 school year.

Sample: 358 teachers from Chaiyaphum Provincial Primary Education Service Area identified using Krejcie and Morgan (1970) table. Stratified random sampling was conducted using the service areas of the district as strata.

Data collection instrument: a questionnaire on the current problems and needs of teacher leadership in modern learning management.

Data analysis: data was analyzed by calculating the mean, standard deviation and needs index from highest to lowest level.

3. RESULT AND DISCUSSION

The components of teacher leadership in modern learning management consist of 5 elements:

1. Integrated learning management

This approach combines two or more areas of knowledge through a systematic learning experience that links different disciplines. It helps students learn holistically and understand interrelated content that can be applied to real-world scenarios. This is in line with

the ideas of Wongyai & Phattanaphon (2019), who suggest that integration means connecting two or more areas of knowledge seamlessly and systematically to create connected learning. Phetcharaporn (2019) emphasized that integration means connecting different disciplines or related content to provide students with a holistic knowledge that can be practically applied. Research by Chanchang (2020) found that integrated teaching helps students to grasp content comprehensively and develop higher order thinking skills. Interdisciplinary activities also promote analytical thinking through practical tasks, leading to more enjoyable learning experiences, positive interactions with teachers and classmates, and better ethical and moral values.

2. Development of media and technology

This is about analyzing and preparing the reception and transmission of information, including the technology used in learning management, in order to align it with the learning objectives. Appropriate, varied use of media and technology helps to deliver learning experiences tailored to students, while internet searches enable continuous lifelong learning. Phanmee & Thongjohn (2022) noted that rapid technological development impacts educational processes and necessitates adaptive strategies. Innovations have proven to be beneficial in various areas of education, such as increasing student enrolment, modernizing curricula and producing new media to efficiently meet the needs of learners. Ruangrit (2017) developed a blended project-based teaching model identified seven components that are critical to innovation: Teachers, students, study guides, curricula, online learning management systems, knowledge and cognitive skill assessments, and interpersonal and responsibility skill assessments (Wisetsat & Nuangchalerm, 2019). The instructional model itself includes three main phases: Preparation, Instruction, and Assessment. The research found that cognitive skills and knowledge averaged 84.66%, indicating that students had excellent cognitive skills. Interpersonal and responsibility skills were rated as good level.

3. Active leadership in learning

This aspect can be attributed to active leadership in learning, which is a feature of teacher leadership in the management of learning activities. The role of the teacher shifts from imparting knowledge to supporting, encouraging and guiding learners in their search for knowledge from various media and learning sources. This includes appropriate personality traits and the ability to manage learning and teaching processes so that learners can practice their skills and take action to gain new experiences, effectively expand their knowledge and adapt to changing situations. This helps to achieve set goals and creates lasting change that improves the quality of learners. This concept is in line with the ideas of Wongyai & Patthapol (2019), who suggest that teachers play a coaching role in developing learners' potential, which includes three roles: Engaging, Empowering and Enlivening Learning. This is also in line with the Office of the Basic Education Commission (2019), which defines active learning as an approach to learning that emphasizes learner interaction in the classroom and encourages higher-order thinking through analysis, synthesis and evaluation. Learners must not only listen, but also read, write, ask questions and discuss together. They practice actively, taking into account their prior knowledge and needs, transforming themselves from passive recipients to active agents of knowledge.

This is in line with Naowapongrat (2019), who investigated the impact of physical education management based on the active learning approach on the academic performance and problem-solving skills of grade 8 students. The results showed that 1) the mean scores in academic achievement, ethical knowledge, sports attitude, physical fitness, and problem-solving skills were significantly higher for the experimental group after the experiment than before, while the control group showed no significant difference; and 2) the experimental group's score was significantly higher than that of the control group at a statistical significance level of 0.05.

4. Research-based innovation for learning

This can be attributed to the fact that research-based innovation for learning is designed to benefit education related activities. It involves the development of new or the improvement of existing approaches to learning management, whether in the form of instructional media, techniques, activities or other tools that teachers use to deliver quality learni ng experiences. It can be concrete or abstract and is implemented through ongoing research processes that use different types of research to ensure relevance. This concept aligns with Mungmeesuksiri (2019) who suggested that the development of learning management innovations in this research involves the creation of instructional media through knowledge management, resulting in innovations that teachers can use to improve teaching effectiveness. It also helps teachers to design student centered teaching processes. In this study, learning management innovations were developed in the form of printed media supplemented by short films to help teachers learn practical teaching techniques and put examples from theory into practice that provide applicable guidelines.

According to Prasertsil et al. (2017), found 7 key aspects of innovation management in education: 1) modern knowledge training to promote innovation; 2) support for appropriate technology and equipment; 3) forums for sharing and learning; 4) strategies to promote innovation in the classroom; 5) budgets for innovation creation; 6) appropriate student numbers per classroom; and 7) motivation for teachers to innovate, e.g. through rewards.

5. Self-development and collaboration among colleagues

This can be attributed to the sharing of knowledge, both in processes and in behaviors that influence employees and followers. This collaboration enables individuals to develop their skills and experience together and realize their full potential. They use their knowledge, skills and technology to create trust and an awareness of the mission and vision among colleagues. This leads to loyalty and commitment to the organization and motivates colleagues to change their beliefs, attitudes and practices in line with the mission and vision of the team and the organization. Participation in the process of professional learning communities is consistent with the ideas of Chananil & Netthanomsak (2022), who suggested that professional learning communities require collaboration among teachers, administrators, and relevant agencies to cultivate a culture or community of shared learning.

Thailand places a high value on teacher education and professional development, and educators hope that PLC is a process that can be used in all schools for teacher development. PLC is a process that addresses practical problems in specific contexts and uses the concept of appreciative dialog to help reduce teacher stress and anxiety. PLC should have three main components: relaxed vigilance, experiential learning from complex situations and active

development. The PLC work cycle consists of four steps: storytelling, reflecting, action research, and summarizing activities. An ideal state for PLC implementation is one in which participants feel safe, where there is a positive atmosphere, where individual differences are valued and where they understand that emotional and mental changes are a natural part of life.

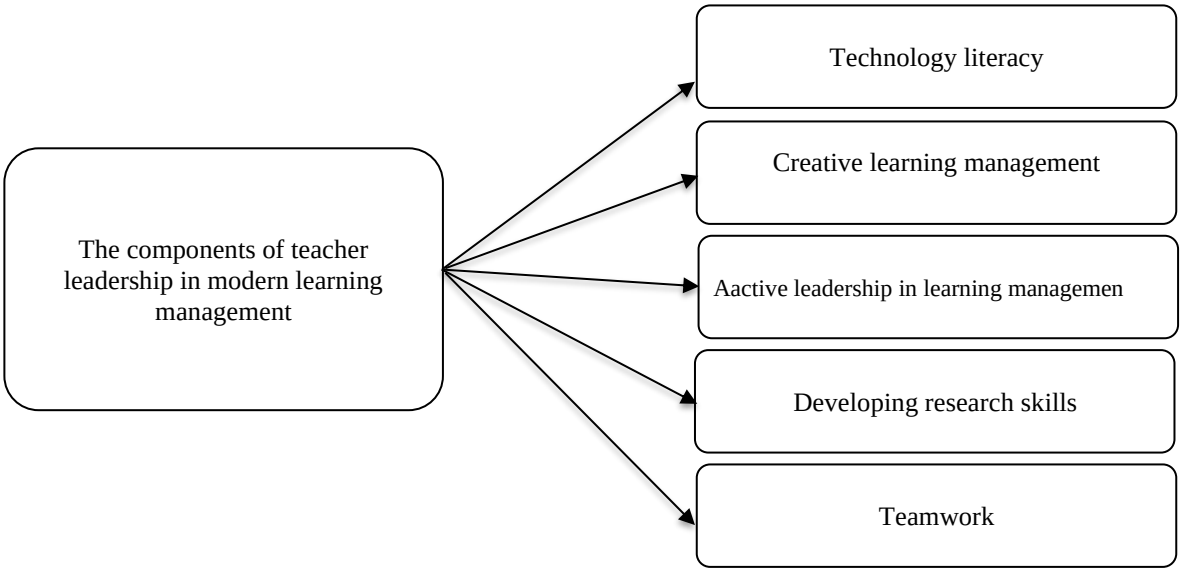

Figure 1 The components of teacher leadership in moder learning management

The components of teacher leadership in modern learning management consist of 5 elements:

1. Technology literacy: Due to rapid technological change, students can access information anytime, anywhere. Therefore, teachers must stay abreast of the rapid changes in this borderless information age (Prachagool et al., 2022). Lertkonsan (2024) who suggests that teachers need knowledge and skills for accessing media technologies and developing technologies that align with and enhance the quality of students' learning.

2. Creative learning management: Teachers need to design learning processes so that students can engage in different activities. They should also create opportunities to assess students' progress while reflecting and sharing knowledge between teachers and students according to students' interests. Chaisong (2024), who suggests that "teachers must be bold in thinking, acting and expressing, have confidence in what is good and right, and continuously adapt to promote varied learning and create new things through hands-on practice."

3. Active leadership in learning management: Teachers need to design learning activities that promote student development and focus on thinking and practicing to create knowledge that goes beyond just learning. Active leaders should use a variety of teaching methods to help students use their knowledge for application, problem solving, and professional development. Kanyasai (2024) who suggests that teachers play a crucial role in shaping learning management because they help students acquire practical knowledge that leads them to apply it in real life.

4. Developing research skills: Teachers should have research skills to continuously solve problems for students in learning management and seek knowledge to promote

innovations that are appropriate for their local context. This is in line with Wongsrichan (2024) who suggests that "teachers must not stop gaining new knowledge from research to develop and create innovations that are aligned with the lifestyle and resources of the local context."

5. Teamwork: This includes building trust within the organization and motivating colleagues to achieve success by working together. Kanyasai (2024) suggests that teamwork creates love and unity in the organization, promotes multidimensional learning and facilitates the sharing of skills and ideas to improve the work.

The components of teacher leadership in modern learning management consist of 5 main components, 16 sub-components, and 43 indicators as Table 1.

Table 1 The components of teacher leadership in modern learning management

Main compenent	Sub-compenent	Indicator
1. Technological competency	1. Basic technological competency	1. Ability to promote the use of basic computer programs in teaching and learning 2. Encouraging the use of technology devices for learning and self-development, and adapting them for learning management
	2. Technology promotion and development competency	1. Creativity in designing and extending the use of technology for learning management 2. Utilizing media and technology creatively as tools for diverse learning management
2. Teamwork	1. Clear common goal setting	1. Unity within the team 2. Participation in setting common goals and guidelines
	2. Role setting and task assignment	1. Assigning tasks based on proficiency and preference 2. Clearly defining the roles of team members
	3. Leadership in team participation	1. Trust and confidence among team members 2. Adaptability to change and initiative in new tasks 3. Belief in the team's organizational leadership
3. Research Competency Enhancement	1. Importance of research	1. Meaning and significance of research 2. Scope and procedural research methodology 3. Role of professional teacher development in research
	2. Research problem analysis	1. Writing the background and significance of research problems 2. Issues in problem analysis 3. Problem analysis and methods
	3. Innovative problem solving	1. Selection of innovation 2. Evaluation of innovation effectiveness 3. Meaning and importance of innovation
	4. Research design	1. Research design methodology 2. Meaning and purpose of research design

		3. Principles and characteristics of research design
	5. Research report writing	1. Formats of research report writing 2. Techniques for research report writing 3. Types of research reports 4. Principles of research report writing
4. Creative learning management	1. Learning design	1. Integrating traditional and new teaching methods 2. Designing activities to promote student participation in learning management 3. Supporting students in being creative, sharing opinions, exchanging knowledge, and helping each other 4. Encouraging students to connect content to real-life experiences
	2. Learning environment and atmosphere	1. Creating media and learning resources that align with student differences 2. Creating an atmosphere that encourages creative learning
	3. Assessment	1. Assessment that strengthens student confidence and involves them in improvement using diverse methods 2. Assessing learning progress to reflect thoughts for improvement
	4. Implementation	1. Designing learning activities that engage students 2. Managing diverse learning activities for practical application
		3. Designing learning to boost student confidence considering their potential
5. Active leadership in learning management	1. Learning network creation	1. Increasing opportunities for knowledge exchange 2. Academic leadership 3. Disseminating innovative learning
	2. Formative assessment for learning	1. Conducting participatory learning assessment with various methods 2. Providing feedback to develop the learning of teachers and students

The components of teacher leadership in modern learning management consist of 5 main elements:

1. Technological competence: This component includes basic technological skills, such as the ability to promote the use of basic computer programs in teaching and learning, and the use of technological tools for personal learning and development while adapting them for teaching purposes. The competency to promote and develop technology is assessed through creativity, extending ideas and designing the use of technology in learning management. Creative use of media and technology serves as a versatile learning management tool.

2. Teamwork: Teamwork requires the establishment of clear common goals demonstrated by unity within the team and participation in goal setting. Role allocation should be based on members' skills and interests, with roles clearly defined. Leadership and commitment in the team are assessed by mutual trust, adaptability to change, taking on new tasks and trust in organizational leadership within the team.

3. Improving research skills: research skills should begin with recognizing the importance of research, understanding its scope and methodology, and determining the role of professional teacher development through research. Analysis of research problems involves writing down the background and significance of the research question, identifying topics for problem analysis, and analyzing problems and methods. Innovation in problem solving involves selecting innovations, evaluating their effectiveness, and understanding their significance. Research design includes understanding the methods, objectives, principles and characteristics of research design. Writing a research report involves understanding report writing techniques, types of reports and adhering to report writing principles.

4. Creative learning management: Creative learning management requires designing learning activities, combining traditional and new teaching methods to engage learners, and encouraging active participation in learning. Support learners to think creatively, share opinions, exchange knowledge and help each other while connecting the content to real-life experiences. The learning environment is created by designing media and resources to accommodate learners differences and foster a creative learning atmosphere. Assessment includes empowering learners to improve and develop different methods through collaborative assessment and reflecting on learning progress to enable future improvement.

5. Active leadership in learning management: Active leadership requires action through learning designs that encourage learner enthusiasm, different teaching methods that promote practical skills and fostering learners' confidence in their potential. Building a learning network includes creating opportunities for knowledge sharing, providing academic leadership and disseminating learning innovations. Sub-evaluation of learning involves participatory assessment of learning processes using different methods and providing feedback to encourage both teachers and learners.

Table 2 Essential requirements for teacher leadership in modern learning management

Components	Current situation		Desired situation		PNI modified	Rank
	Mean	SD	Mean	SD		
Technological competency	4.40	0.67	4.54	0.63	0.031	1
Active leadership in learning management	4.41	0.61	4.45	0.65	0.009	5
Teamwork	4.46	0.61	4.54	0.63	0.018	2
Creative learning management	4.47	0.59	4.52	0.62	0.011	4
Research competency enhacement	4.27	0.65	4.34	0.68	0.016	3
Overall	4.40	0.63	4.48	0.64	0.018	-

Table 2 shows that the current state of teacher leadership in modern learning management is at a high level overall ($\bar{x}$ =4.40, SD=0.63). Looking at the individual components, the one with the highest mean value is creative learning management ($\bar{x}$=4.47, SD=0.59). The desired state of teacher leadership in modern learning management is also at a high level overall ($\bar{x}$ =4.48, SD=0.64). The component with the highest average value is technological competence and teamwork ($\bar{x}$=4.54, SD=0.63). The prioritized basic needs in places 1 to 5 are technological competence, teamwork, improvement of research competence, creative learning management and active leadership in learning management.

The current state of teacher leadership in modern learning management demonstrates a notably high overall level. This finding aligns with recent studies indicating that effective teacher leadership is critical for enhancing educational outcomes and fostering a collaborative school environment (Wenner & Campbell, 2017; Harris & Jones, 2019). Among the individual components of teacher leadership, creative learning management. This suggests that teachers are particularly skilled in fostering innovative and engaging learning experiences, which is essential for student motivation and achievement (Runco, 2014; Beghetto, 2016).

There is a strong aspiration among educators to enhance their leadership capabilities further, reflecting a commitment to continuous professional development (Day & Sammons, 2013). The component with the highest average value in this desired state is technological competence and teamwork. This highlights the growing recognition of the importance of integrating technology into teaching and fostering collaborative practices among educators (Ertmer & Ottenbreit-Leftwich, 2010; Fullan, 2014). Prioritizing the basic needs for teacher leadership development, the priorities underscore the necessity for a well-rounded skill set that includes not only technical and collaborative abilities but also a strong foundation in research and innovative teaching practices (Spillane & Healey, 2010; Darling-Hammond, 2017).

4. CONCLUSION

The components of teacher leadership in modern learning management consist of 5 main components: 1) Technological competence with two subcomponents and four indicators; 2) Teamwork with 3 sub-components and seven indicators; 3) Improving research competence with five subcomponents and 16 indicators; 4) Creative learning management with three subcomponents and eight indicators; and 5) Active leadership in learning management with 3 sub-components and 8 indicators. The finding can be implied to school development and authentic educational administration through practices.

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