Chapter 2
Goal Orientation, Critical Reflection, and Unlearning

Do not imitate works of others, not even your own.
(Okamoto, 2005, p. 68)

2.1 Highlights

- The goal of this chapter is to examine the antecedents of individual unlearning in terms of goal orientation and reflective activities.
- Learning goal orientation promotes unlearning through reflection and critical reflection, as well as through critical reflection only.
- Performance goal orientation promotes unlearning through reflection and, subsequently, through critical reflection.
- Critical reflection plays an indispensable role in linking goal orientation to individual unlearning.

2.2 Typical Case

The following is the case of a public nurse who doubted the precedent course of action and then changed her working style.

> Until then, my work course of action was based only on my consciousness from precedents. However, at that time, I thought I wanted to work with fulfillment and enjoyment to empower the residents or clients that I served. In order to realize such a vision, I deeply thought about how to change my work processes. Then, I tried to proactively communicate with residents to strengthen our relationship and broaden my scope and perspectives to better plan healthcare schemes. As a result, I strove to propose suggestions to my supervisors for changing work processes and was able to strike a balance between efficiency and effectiveness.

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This case indicates that the public nurse critically reflected on her work style based on her learning goals and unlearned her work processes from "acting on precedent" to a "communication-oriented proactive style."

2.3 Theoretical Background and Hypotheses

To understand the individual unlearning process, this chapter examined the effect of goal orientation and reflection on individual unlearning using survey data. Goal orientation is crucial for learning because goals influence how individuals interpret and respond to achievement (Dragoni et al., 2009; Dweck, 1986). While action is defined as goal-oriented behavior (Frese & Zapf, 1994), it can be foreseen that reflective activities involving reviewing objectives or work processes, enable individuals to identify beliefs or routines that should be stopped (Espedal, 2008).

Noteworthily, there are two types of goal orientation: learning goal orientation and performance goal orientation (Dweck, 1986; Dweck & Leggett, 1988). Reflection is also distinguished from critical reflection, which is a deeper cognitive activity (Cunliffe, 2004, 2016; Mezirow, 1991). It is hypothesized that learning and performance goal orientations affect reflection and critical reflection differently regarding their facilitative effect on individual unlearning. However, few studies have examined how goal orientations, reflection, and critical reflection combine to determine individual unlearning. The present research contributes to the literature by finding that individual unlearning was closely linked to reflective activities, inspired by individual goal orientations.

This chapter is organized as follows. First, the literature on reflection, critical reflection, and goal orientation is reviewed, and then hypotheses are proposed based on the literature review, followed by descriptions of quantitative methodology. Finally, the results are presented and discussed from theoretical and practical implications.

2.3.1 Reflection and Critical Reflection

To decide which beliefs and routines should be abandoned, individuals need to reflect on activities and practices. Prior research has suggested that reflection is key to learning and fostering positive occupational outcomes (Boud et al., 2006) because individuals learn from experiences by observing or reflecting on events and performance (Grant, 2001; Kolb, 1984; Yeo & Marquardt, 2015). Raelin (2002) defined reflective practice as the practice of "periodically stepping back to ponder the meaning of what has recently transpired to us and to others in our immediate environment" (p. 66). Gallagher et al. (2007) stated that reflection was a means of connecting individual learning with social outcomes.

It is important to distinguish "reflection," which focuses on the immediate, presenting details of a task or problem, from "critical reflection," which examines our taken-for-granted assumptions to become receptive to alternative ways of reasoning and behaving (Gray, 2007; Raelin, 2001; Reynolds, 1998). Cunliffe (2004) differentiates reflection from critical reflection by comparing it with the difference between single-loop and double-loop learning (Argyris, 1991). In other words, reflection corresponds to single-loop learning, which stresses on problem solving, identifying, and correcting errors, while critical reflection is equivalent to double-loop learning, which involves deeper critical thinking about behavior: questioning assumptions, values, and espoused theories.

With regard to the difference between these two concepts, Mezirow (1991) described reflection that includes critiquing assumptions on the content or process of "problem solving," while critical reflection involves the critique of presuppositions concerning "problem posing" that can make a situation that is taken for granted problematic, thereby raising questions regarding their validity. Reynolds (1998) likewise argued that reflection focuses on the immediate, presented details of a task or problem, as opposed to critical reflection, which concentrates on an examination of the assumptions being taken for granted within which the task or problem is situated. These studies suggest that critical reflection can be a higher level of reflective thinking than reflection as the former enables us to transform our meaning framework (Kember et al., 2000).

It is worth mentioning that critical reflection can lead to transformative learning, referring to the process of effecting change in a frame of reference or in the structures of assumptions through which we understand our experiences (Mezirow, 1990, 1997). Cunliffe (2009) also stated that a dialogue-with-self about our fundamental assumptions, values, and ways of interacting, stimulated us to be responsive to others and open to possibilities of new ways of being and acting. As per these arguments, individuals who critically reflect on pre-conceived assumptions are more likely to be aware of whether or not certain beliefs and routines have become obsolete.

Reflection may also facilitate unlearning because individuals who review the immediate, pressing details of their tasks to solve problems, may be aware of occupational routines that are ineffective for solving certain problems. It is predicted that individuals who often reflect on their tasks or problems have more opportunities to ascertain the inappropriateness of their taken-for-granted assumptions than do individuals who are not engaged in reflection at all. In other words, reflecting on "problem-solving" activities may bring about "problem posing" in critical reflection. That is, general reflection may serve as a basis for critical reflection. Thus, the following hypothesis was proposed:

Hypothesis 2-1: Reflection has a partial indirect effect on unlearning through critical reflection.

2.3.2 Goal Orientation

Goal orientation refers to one's dispositional or situational goal preferences in achievement situations (Payne et al., 2007). According to Dweck (1986), goals are classified into performance goals and learning goals. Specifically, individuals who have performance goals are concerned about gaining favorable judgments of their competence, while individuals who have learning goals are concerned about increasing their competence (Dweck & Leggett, 1988). Organizational psychology researchers have found that goal orientation plays a significant role in a variety of human resource decisions (Payne et al., 2007).

Of the two types of goals, learning goal orientation had positive impacts on employee creativity (Gong et al., 2009), motivation to learn (Klein et al., 2006), learning from failure (Noordzij et al., 2013), skill acquisition, and intrinsic motivation to improve skills (Hirst et al., 2009), the seeking of self-improvement information (Janssen & Prins, 2007), self-regulation (Bouffard et al., 1995) and metacognitive activity including planning, monitoring, and revising goal appropriate behavior (Ford et al., 1998). These results suggest that metacognitive or higher-order cognitive activities for learning such as reflecting on our behaviors or assumptions are facilitated by learning goals.

The repercussion of learning goal orientation on metacognition or self-regulation may be due to its influence on how individuals interpret and react to events (Dweck, 1986). Goal-setting theory (Locke & Latham, 2002) implies that goals direct individual attention and effort toward goal-relevant activities and away from goal irrelevant activities. To learn from experiences and to increase competence, both reflective and critically reflective practices are indispensable (Kolb, 1984; Schön, 1983). As such, the following hypotheses were proposed.

Hypothesis 2-2a: Learning goal orientation has a partial indirect effect on unlearning through reflection.

Hypothesis 2-2b: Learning goal orientation has a partial indirect effect on unlearning through critical reflection.

Prior empirical studies indicated that learning goal orientation promotes adaptive response patterns and are characterized by challenge seeking, persistence, and the acquisition of new knowledge, while performance goals are associated with maladaptive response patterns in which challenges are avoided (Payne et al., 2007; Porter et al., 2010). This is because individuals with a learning goal view challenging tasks as opportunities to learn, whereas individuals with a performance goal perceive challenging tasks as inherently risky as they fear failures and reveal their inadequate abilities to others (Dragoni et al., 2009).

However, Payne et al. (2007) stated that a high-performance goal does not reduce the general positive effect of a high learning goal when the two types of goals are paired. Similarly, Porter et al. (2010) discovered that learning and performance orientation had interactive effects on team performance when teams did not have slack

resources. These studies suggest that performance goal orientation can have a positive impact on individual or team outcomes. Additionally, Bouffard et al. (1995) showed positive effect of the performance orientation of college students on their self-regulation, although the effects were not as strong as those observed for a learning orientation. Janssen and Prins (2007) also revealed that performance goal orientation stimulated seeking information for self-improvement. These results suggest that performance goal orientation can drive metacognitive activities. Therefore, the following hypotheses were proposed.

Hypothesis 2-3a: Performance goal orientation has a partial indirect effect on unlearning through reflection.

Hypothesis 2-3b: Performance goal orientation has a partial indirect effect on unlearning through critical reflection.

Given Hypothesis 2-1, which states that reflection has a partial indirect effect on unlearning through critical reflection, there must be two indirect effects from goal orientations on unlearning. That is, both learning goal orientation and performance goal orientation may indirectly influence unlearning through reflection and, subsequently, through critical reflection. These relationships show that two types of goal orientation motivate individuals to engage in general reflection of their work processes, leading to critical reflection, which results in unlearning. Therefore, the following hypotheses were proposed:

Hypothesis 2-4a: Learning goal orientation has a partial indirect effect on unlearning through reflection and, subsequently, through critical reflection.

Hypothesis 2-4b: Performance goal orientation has a partial indirect effect on unlearning through reflection and, subsequently, through critical reflection.

Based on the hypotheses presented above, this study proposed the research model shown in Fig. 2.1.

2.4 Method

2.4.1 Sample and Data Collection

Questionnaire surveys were conducted with municipal government employees, HRD (human resource development) trainers from a consulting firm, and hospital nurses in Japan. In total, 417 questionnaires were distributed to all participants through e-mails from their HRD departments. The response rate was 64.9% with 271 usable responses. The sample consisted of 91 municipal public servants, 73 trainers, and 107 nurses.

Participants responded to the questions on a five-point Likert scale. The sample was 51.3% male (69.2% for government employees, 91.8% for trainers, 9.3% for nurses). The average amount of work experience was 21.2 years (SD = 8.3)

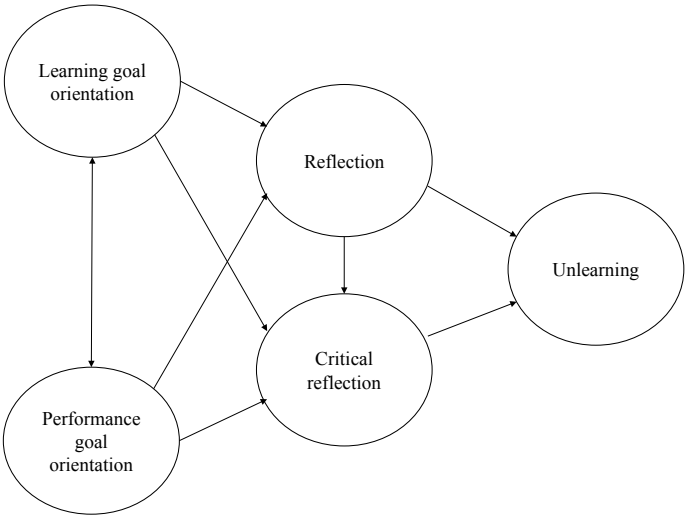

Fig. 2.1 Research model (Study 1)

(23.6 years for government employees, 23.8 years for trainers, 17.4 years for nurses). The age distribution was as follows: 29 years and younger (24.4%), 30–39 (37.3%), and 40 years and older (38.3%) (1.1%, 14.3%, and 84.7% for government employees, 0.0%, 0.0%, and 100% for trainers, and 0%, 48.6%, and 51.4% for nurses, respectively). The sample consisted of staff (37.7%), junior managers (45.4%), and middle managers (16.9%) (all trainers were staff level, 1.1%, 55.0%, and 43.9% for government employees, respectively, and 24.3%, 46.7%, and 29.0% for nurses, respectively).

2.4.2 Measures

As the questionnaire was written in Japanese, back-translation was performed to minimize discrepancies between the original and the translated questionnaires (Cascio, 2012). First, I conducted a translation from the English versions of the scales into Japanese, then, a bilingual language professional conducted a back-translation into English. If the back-translated item was not equivalent to the original one, the translated Japanese item was revised. Respondents were asked to answer the questions on a five-point Likert scale (1 = strongly disagree, 5 = strongly agree), except for unlearning. The scores for each item were used as observable variables except for social desirability. The average score for the items was used for controlling the effect of social desirability on reflection, critical reflection, and unlearning.

Learning goal orientation. Five items derived from Button et al. (1996) were used to assess learning goal orientation. The items are: "When I fail to complete a difficult

task, I plan to try harder the next time I work on it"; "I prefer to work on tasks that force me to learn new things"; "I do my best when I'm working on a fairly difficult task"; "The opportunity to extend the range of my abilities is important to me"; and "When I have difficulty solving a problem, I enjoy trying different approaches to see which one will work."

Performance goal orientation. Five items derived from Button et al. (1996) were used to assess performance goal orientation. The items are: "I prefer to do things that I can do well rather than things that I do poorly"; "The things I enjoy the most are the things I do the best"; "The opinions others have about how well I can do certain things are important to me"; "I feel smart when I do something without making any mistakes"; and "I like to work on tasks that I have done well on in the past."

Reflection. Five items derived from West (2000) were used to assess individual reflection. The items are: "I often review my work objectives"; "I often reflect upon whether I am working effectively"; "I often review the methods I use to get the job done"; "I modify my work objectives in the light of changing circumstances at work"; and "I often review my approach to getting the job done."

Critical reflection. The scale developed by Kember et al. (2000) for educational programs was modified to assess critical reflection. The items are: "I often review the way I look at myself"; "I sometimes challenge some of my firmly held ideas"; "I often rethink my normal way of doing things"; and "I sometimes discover faults in what I had previously believed to be right."

Individual unlearning. As explained in Chap. 1, the scale of team unlearning developed by Akgün et al. (2006) was modified to measure individual unlearning. The scale consists of belief change (three items) and routine change (three items). The following belief change items were used: "beliefs on technological improvements"; "beliefs on the external environment"; and "beliefs on customer (patient) demand." The items of routine change are: "work methods or procedures"; "methods for gathering and sharing information"; and "decision-making processes or methods." Respondents were asked to rate the changes in their beliefs and routines in the past year on a five-point Likert scale (1 = hardly changed, 5 = greatly changed).

Social desirability. To prevent potential common method bias, social desirability was assessed using six items derived from Paulhus (1991). The items are: "I never regret my decisions"; "I don't care to know what other people really think of me"; "I am fully in control of my own fate"; "I am very confident of my judgments"; "Once I've made up my mind, other people can seldom change my opinion"; and "It's all right with me if some people happen to dislike me."

Control variable. Of the three sample organizations, nurses may have unique characteristics, because reflection is a common process used to search for solutions in the nursing field and has been employed as an invaluable tool in nursing education (Bulman et al., 2012; Jootun & McGarry, 2014). In order to control its effect, a dichotomous dummy variable for profession (1 = municipal government employees and HRD trainers; 2 = nurses) was included in the equation.

2.4.3 Validation in Measures

Cronbach's α were used to evaluate the internal consistency of the constructs. As shown in Table 2.1, the Cronbach's α values for learning goal orientation, performance goal orientation, reflection, critical reflection, and unlearning were 0.85, 0.78, 0.79, 0.70, and 0.87, respectively, which met the recommended reliability coefficient of 0.70 (Nunnally, 1978).

To assess the convergent validity of the model constructs, a confirmatory factor analysis (CFA) with five latent learning constructs and a total of 21 items was conducted. The results showed that all items were significant for the respective constructs ($p < 0.001$). The goodness-of-fit statistics for the model ($\chi^2 = 317.59$ ($df = 179$, $p < 0.001$), $\chi^2/df = 1.77$, comparative fit index (CFI) = 0.92, root mean square error of approximation (RMSEA) = 0.05, and standardized root mean square residual (SRMR) = 0.05), were acceptable considering the cut-off value criteria proposed in past studies ($\chi^2/df < 2.0$; CFI > 0.90; RMSEA < 0.06; and SRMR < 0.08) (Hu & Bentler, 1999; Lance et al., 2006).

2.4.4 Assessment of Common Method Bias

As the data were collected from self-reported questionnaires measured from a single source, there was a possibility that the results of the study would suffer from common method bias. Several diagnostic analyses were conducted to address this issue. First, Harman's one-factor method was performed. This method assumes that a substantial amount of common method variance is present if a single factor emerges from a factor analysis, or one general factor accounts for the majority of the covariance among the measures (Podakoff et al., 2003). A principal component factor analysis was performed on the items for all the variables. The results show that six factors were extracted, while one factor accounted for 20.6% of the variance. The results indicate that a serious common method bias was not present in this study.

Second, the partial correlation procedure suggested by Lindell and Whitney (2001) was conducted. As the theoretically unrelated marker variable, an item ("I have a lot in common with the people around me") of the revised UCLA Loneliness Scale (Russell et al., 1980) was used. When the effect of this variable was partialed out from the relationships between studied variables, the original correlations matrix between variables was similar to the partial correlation matrix. This indicates that common method bias did not seriously affect the results.

Third, since social desirability has the potential to bias the respondents' answers and to mask the true relationships between the variables (Podsakoff et al., 2003), this study included social desirability in the equation as a control variable to separate out its effects on the predictor and criterion variables in the analyses.

Finally, the results of a series of CFA showed that the five-factor model fit the data much better than the single-factor, two-factor, three-factor, or four-factor models,

Table 2.1 Descriptive statistics and correlations (Study 1)

Variable		Mean	Standard deviation	1	2	3	4	5	6
1	Learning goal orientation	4.04	0.58	(0.85)					
2	Performance goal orientation	3.27	0.62	−0.03	(0.78)				
3	Reflection	3.70	0.53	0.36***	0.13*	(0.79)			
4	Critical reflection	3.56	0.53	0.32***	−0.01	0.43***	(0.70)		
5	Unlearning	3.30	0.73	0.24**	0.03	0.18**	0.28***	(0.87)	
6	Social desirability	2.79	0.55	0.22***	0.06	0.22***	0.05	0.03	(0.73)
7	Profession	1.39	0.49	−0.03	0.13	−0.18**	−0.08	0.19**	−0.11

Note *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$. Cronbach's α values are shown along the diagonal. Unlearning is the average score of unlearning (beliefs) and unlearning (routines). Profession is the dummy variable (1 = government employees and HRD trainers; 2 = nurses)

suggesting that the influence of common method bias was minimized in this study (Podsakoff et al., 2003).

2.5 Results

The descriptive statistics and the correlations among the variables are presented in Table 2.1. To test the proposed model, structural equation modeling (SEM) was conducted with the hypothesized model. The standardized path coefficients for the hypothesized model are shown in Table 2.2, and the summary of the results is presented in Fig. 2.2. To test the indirect effects, the bootstrapping estimate was performed following the recommendation by Preacher and Hayes (2008). Specifically, bootstrap analyses using 2000 random samples were conducted, interpreting the results using the 95% confidence interval (CI). The CI must exclude zero to establish significance.

Table 2.2 Structural model estimates (Study 1)

Structural path			Standardized estimate	*t*-value
Critical reflection	→	Unlearning	0.40	2.45*
Reflection	→	Unlearning	0.02	0.17
Reflection	→	Critical reflection	0.54	5.73***
Learning goal orientation	→	Reflection	0.38	5.06***
Learning goal orientation	→	Critical reflection	0.23	2.42*
Performance goal orientation	→	Reflection	0.21	2.78**
Performance goal orientation	→	Critical reflection	−0.08	−0.87
Control variables				
Social desirability	→	Unlearning	0.05	0.67
Social desirability	→	Reflection	0.12	1.62
Social desirability	→	Critical reflection	−0.13	−1.81
Profession	→	Unlearning	0.25	2.62**
Profession	→	Reflection	−0.21	−3.46***
Profession	→	Critical reflection	0.01	0.03
Learning goal orientation	⇔	Performance goal orientation	−0.08	−1.10

Note *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$. CFI = 0.890; SRMR = 0.064; RMSEA = 0.059; $\chi 2/df = 1.95$

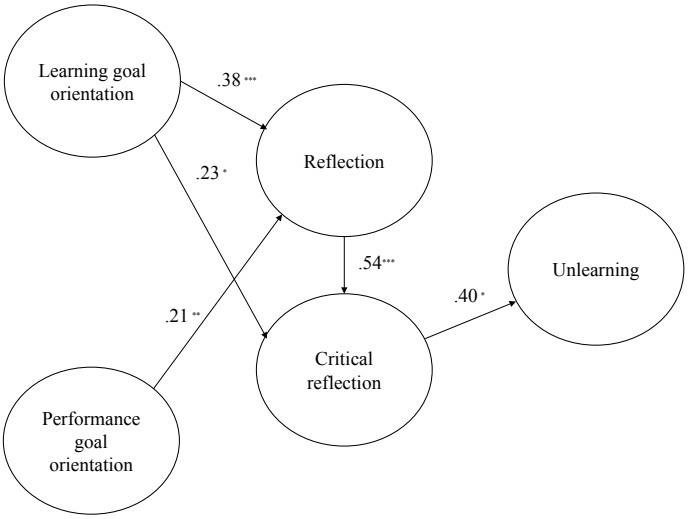

Fig. 2.2 Summary of results (Study 1). *Note* Only significant standardized estimates are reported (*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$). The effects of social desirability and profession were controlled, but are not shown

Hypothesis 2-1 states that reflection has a partial indirect effect on unlearning through critical reflection. As shown in Table 2.2 and Fig. 2.2, the results of structural equation modeling indicate that critical reflection had a positive direct effect on unlearning (0.40, $p < 0.05$), while reflection had no significant direct effect on unlearning (0.02, *n.s.*). It was also found that reflection had a positive direct effect on critical reflection (0.54, $p < 0.001$). To test the indirect effect, bootstrapping estimates were calculated, and the results showed that the 95% confidence interval (CI) for the indirect effect of reflection on unlearning through critical reflection excluded zero (indirect effect = 0.22, 95% CI [0.09, 0.45]). The results suggest that reflection had a complete indirect effect on unlearning through critical reflection. Therefore, Hypothesis 2-1 was partially supported.

Table 2.2 and Fig. 2.2 show that learning goal orientation had positive direct effects both on reflection (0.38, $p < 0.001$) and critical reflection (0.23, $p < 0.05$). The bootstrapping results on three indirect effects from learning goal orientation to unlearning suggest that the CI for the two indirect effects (learning goal orientation → critical reflection → unlearning; learning goal orientation → reflection → critical reflection → unlearning) excluded zero (indirect effect = 0.09, 95% CI [0.01, 0.22]; indirect effect = 0.08, 95% CI [0.03, 0.19]). However, the CI for the indirect effect of learning goal orientation on unlearning through reflection included zero (indirect effect = 0.01, 95% CI [−0.07, 0.13]). The results support Hypotheses 2-2b and 2-4a, but do not support Hypothesis 2-2a.

Figure 2.2 show that performance goal orientation had a positive direct effect on reflection (0.21, $p < 0.01$), yet no significant effect on critical reflection (−0.08, *n.s.*).

The bootstrapping results indicate that the CIs for the two indirect effects (performance goal orientation => reflection => unlearning; performance goal orientation => critical reflection => unlearning) included zero (indirect effect = 0.01, 95% CI [−0.04, 0.07]; indirect effect = −0.03, 95% CI [−0.10, −0.03]). The results do not support Hypotheses 2-3a and 2-3b. However, the CI for one indirect effect (performance goal orientation => reflection => critical reflection => unlearning) excluded zero (indirect effect = 0.04, 95% CI [0.01, 0.04]). The results indicate that performance goal orientation had a complete indirect effect on unlearning through reflection and, subsequently, through critical reflection, suggesting that Hypothesis 2-4b was partially supported.

2.6 Discussion

Despite its importance for personal growth, few studies have quantitatively investigated the individual unlearning process. The results of this chapter showed that there is a multi-step relationship between goal orientations and unlearning. Specifically, learning goal orientation indirectly promoted unlearning through reflection and critical reflection, as well as through critical reflection only, while performance goal orientation indirectly promoted unlearning through reflection and, subsequently, through critical reflection. Noteworthily, unlearning occurs only after critical reflection. This study contributes to the existing literature by presenting that individual unlearning was closely associated with reflective activities, which are directed by individual goal orientations.

2.6.1 Theoretical Implications

The findings of this chapter extend the previous research on individual unlearning in four important ways. First, critical reflection was found to have a direct effect on individual unlearning, while reflection was not. The results coincide with Mezirow's (1990, 1997) transformative learning theory, suggesting that challenging the validity of beliefs and assumptions obtained in prior learning enables individuals to change the structures of the assumptions or a frame of references. As prior research has suggested, critical reflection can lead us to be receptive to alternative ways of reasoning and behaving (Cunliffe, 2009; Gray, 2007; Raelin, 2001; Reynolds, 1998). Therefore, unlearning facilitated by critical reflection may initiate double-loop learning in organizations (Argyris, 1991; Cunliffe, 2004, 2016). One of the contributions of this study concerns the role of critical reflection in individual unlearning, which has not been quantitatively examined in past studies.

Second, the results show that reflection promotes critical reflection, indicating that people who reflect on their work processes and activities tend to reflect on their firmly held beliefs or assumptions. This finding suggests that ordinary or general

reflection can provide a basis for critical reflection. In other words, individuals are capable of reviewing their taken-for-granted assumptions by becoming accustomed to reflecting on their objectives, work methods and approaches. Although past research has stressed the differences between these two types of reflection (e.g., Cunliffe, 2004, 2016; Mezirow, 1990; Reynolds, 1998), this study demonstrates that reflection is always an antecedent of critical reflection.

Third, the findings indicate that there were two paths from learning goal orientation to unlearning. In the first path, learning goal orientation promotes unlearning through critical reflection only. In the second path, unlearning results from learning goal orientation promotes unlearning through reflection and, subsequently, through critical reflection. The results suggest that learning goal orientation is a main driver of critical reflection, which leads individuals to unlearn. This may be due to that learning goal orientation can activate individuals' self-regulated or metacognitive activities (Bouffard et al., 1995; Ford et al., 1998). That is, learning goals may have a directive function (Locke & Latham, 2002) for higher-order cognitive activities, such as critical monitoring and revision of individuals' behaviors or perspectives. Although Gong et al. (2009) found that learning goal orientation enhanced employee creativity, the results of this chapter suggest that reflection and critical reflection affect this relationship. This study may perhaps be the first empirical research ever to identify the process by which learning goal orientation promotes individual unlearning mediated through reflection and critical reflection.

Finally, the results indicate that performance goals, which are concerned with gaining favorable judgments of an individual's competence, can be a determinant of general reflection on his/her objectives or work methods, which leads to critical reflection and unlearning. Although many prior studies have indicated that performance goals are associated with maladaptive response patterns in which challenges are avoided (Payne et al., 2007; Porter et al., 2010), this study suggests that performance goal orientation can lead to deep learning when accompanied by reflection and critical reflection.

2.6.2 Practical Implications

The findings of this chapter have managerial implications for fostering individual unlearning in the workplace. First, in order to help employees unlearn their beliefs and work routines, organizations could facilitate critical reviews of the validity of firmly held assumptions or working styles by holding regular meetings or interviews for assessing work progress. It may be important to develop training programs through training program which participants can comprehend the difference between reflection, which emphasizes problem solving, and critical reflection, which focuses on problem posing. The "after-event reviews," which enable people to critically reflect on their behaviors (DeRue et al., 2012), may be an effective tool for promoting reflective practices in organizations. These programs may encourage organizational

members to be engaged in "double-loop learning" (Argyris, 1991) or "exploration" (March, 1991).

Second, the results suggest that the more individuals reflect on their daily work methods and objectives, the more likely they tend to critically review their assumptions, values, or beliefs. Therefore, encouraging general reflection in the workplace may be ideal for promoting critical reflection. To this end, it is important for managers to hold periodic meetings in which sophisticated group facilitation skills are used. In addition, managers may consider periodic private interviews that involve all of the above. Such practices can build a foundation for further critical reflection. Meanwhile, organizations should assist managers so that they may have an opportunity to improve their facilitation skills.

Third, it should be noted that critical reflection on experiences and activities occurs with learning goals. Thus, organizations may encourage employees to think about goals that are associated with increasing their capabilities. A "team-learning orientation" (Bunderson & Sutcliffe, 2003) may inspire individual learning orientation. Through setting learning-related goals for the team, such as "generating innovative ideas," reviews and discussions within the team should lead to critical reflection. In addition, "learning-goal orientation training" (Noordzij et al., 2013) may be beneficial to enhance employees' learning goal levels.

Finally, managers must be convinced that an individual's performance orientation, or having goals to gain favorable judgments of their competence, can promote unlearning only if the goal is combined with reflection and critical reflection. Anseel et al. (2009) reported that feedback accompanied with reflection-enhanced performance, which is an important element within an individual's "performance appraisal". Therefore, it is significant for the HR department to design a performance appraisal system in which employees are given opportunities to reflect, and possibly to unlearn.

2.6.3 Limitations

The limitations of this study should be acknowledged. First, the scale was developed in this study based on Akgün et al.'s (2006) team unlearning scale because there was no measurement scale for individual unlearning. Thus, the validity and reliability of the scale should be tested in different contexts. Second, the sample in this study consisted of government employees, HRD trainers, and hospital nurses at Japanese organizations. It is possible that the national culture may have influenced the results. Thus, the research model should be tested by conducting surveys in various industries, geographics, and cultures. Third, this study examined the unlearning process at the individual level. There must be situational factors that influence the unlearning of employees. It would be interesting to explore how supervisors' behaviors affect individual unlearning. The subsequent chapters investigated the process of individual unlearning by addressing the above limitations. Specifically, the effects of reflection and critical reflection on unlearning were examined using survey data of US

employees in Chap. 3, whereas the influence of situational factors including supervisors' exploratory activities and promotion on individual unlearning were analyzed in Chaps. 4 and 5.

2.7 Conclusions

Organizational unlearning is often triggered by individuals (Zhao et al., 2013), while individual unlearning has been neglected in past studies (Hislop et al., 2014). The analyses in this chapter identified the mechanism by which goal orientations influence individual unlearning through reflective activities. Specifically, the findings indicated that individual unlearning was inspired only through critical reflection, which was promoted by reflection and learning goal orientation. The results suggested that organizations have to promote individual unlearning, not only by providing opportunities to critically reflect on employees' assumptions and practices, but also by linking their goals to reflective activities. These practices may enable organizations to engage in double-loop learning (Argyris, 1991) or exploration (March, 1991).

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