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Building Internal Motivation for Worker Competency Certifications: A Critique and Proposal

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Though not extensively researched, third-party employee competency certifications are increasingly important to organizations. Certifications are double-edged: they may serve to reduce transaction costs, enhance performance, and foster employee development; but they can also be used as “credentials” to gain prestige, rewards, or influence. The authors suggest that excessive use for this latter purpose can undermine their contribution to performance. In this article, a strategy to counter this tendency is proposed. Drawing on “self-determination theory” and Hackman–Oldham’s job design theory, two propositions are developed (a) certifications acquired and used primarily for “internalized” reasons are more likely to lead to ongoing learning, improved performance, and employee development; and (b) strategies are available to organizations, occupations, and certifying bodies to present certifications in such a way as to encourage internal motivations. The article ends with suggestions for future research.

Keywords: Certification, Assessment; Worker Motivation; Training Motivation

Certification of employee competencies is a widespread and growing phenomenon in labor markets (Harris & Barnhart, 2001; Moran, 1996; Pare, 1999; Wiley, 1995). Carter (2005) reviewed the recent supply and demand for both vocationally-oriented degrees and job-based employee certifications; she concluded that certifications are growing “at an accelerating rate” (p. 46). As an example of this growth, the number of certified Human Resource professionals...
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(PHR/SPHR/GPHR; http://www.hrci.org) increased from just over 2,000 in 1990 (Wiley, 1992), to more than 96,000 as of August 2008 (http://www.hrci.org). The topic of certification has stimulated a good deal of practical and methodological literature (e.g., Hale, 2000; Livingood & Auld, 2001; Raymond, 2001). Nonetheless, there has been surprisingly little behavioral research on the certification process (but see Wiley, 1992, 1995, 1999). In this article, we outline an approach to certification that we suggest can serve as a basis for empirical research as well as useful application. Specifically, we propose that certification has a double-edged character (cf. Ashforth & Gibbs, 1990; Kleiner, 2006). On the one hand, its avowed purpose is to attest to worker competency, foster employee development, and ultimately improve work performance (Kleiner, 2006; Livingood & Auld, 2001; Raymond, 2001). This might be referred to as “being good” (cf. Gioia & Corley, 2002). On the other hand, certifications are potent symbols that can be used by workers to gain jobs and higher pay and by employers to garner prestige and influence. This function can be called “looking good.” Although both “being good” and “looking good” have a legitimate place, we agree with critics (e.g., Collins, 2007) who suggest that excessive focus on the latter can undermine the effectiveness of certification systems and waste effort and resources. In the remainder of this article, we develop two general propositions. First, certifications acquired and used primarily for internal or autonomous reasons are more likely to attain their official purposes and resist being deployed as mere symbols. Second, strategies are available to organizations, occupational communities, and certifying bodies to design and present the certification process in such a way as to encourage internal motivations among those who develop, obtain and use employee certifications.

Certification is defined here in a broad sense to include any type of recognized third-party assessment: professional certification, certification by occupational associations or union apprenticeship programs, proprietary certification, voluntary certifications provided by independent bodies, and certificates from reputable skill training agencies. Certification may be voluntary or mandatory for a type of work. Mandatory certification is often called “licensing” (Wiley, 1995). The term credential is sometimes used in the literature as a more general category that comprises both voluntary and mandatory types (see American Educational Research Association: www.aera.net). We prefer not to use credential in this sense because it has another meaning used in this article. In the following discussion, we use the term certification to refer to formal third-party skill set testaments whether they are voluntary or required.

Functions of Certification

“Being Good”

Certifications can contribute to organizational performance in a variety of ways (Hale, 2000). An effective certification system decreases the transaction
costs of selecting and placing workers (Wiley, 1992; Williamson, 1981). Certifications are *signals* (Aguinis, Michaelis, & Jones, 2005, p. 160; Spence, 1973) that quickly and efficiently communicate information about a worker’s skills to potential users, thus reducing risks associated with the transaction. Certifications can provide greater breadth of information than the typical job application or interview. They often (at least partially) replace the need for costly selection and assessment processes such as multiple interviews, lengthy examinations, assessment centers, or probation periods. The need to identify employee competencies can spur the codification of what is currently only tacit knowledge (Nonaka, 1994). This can help standardize skill sets, making them more transferable from one setting to another and improving the deployment of human resources (Zeitz, Blau, & Fertig, in press). Certifications can increase person–job fit by enabling organizations to acquire and allocate employees appropriate for a position (Chatman, 1989). Widespread certification contributes to more effective outsourcing by making it possible to identify competent external suppliers (Wiley, 1995, p. 283). It can enhance workforce development by focusing both internal and external training programs on well-recognized skill sets that have demonstrable relationships to performance (Wiley, 1995, p. 283).

Certifications can also contribute to employee development. They provide specific but challenging goals that motivate workers to learn new job skills (Pierson, Frolick, & Chen, 2001; Ryan & Connell, 1989). The presence of a well-accepted certification system for a job can increase incentive to invest in human capital, because the certification gives the worker competitive advantage in labor markets (Kleiner, 2006). Certification assessments give the worker useful feedback about important work-related knowledge and skills. The achievement of passing a certification exam and acquiring the associated skills may enhance personal self-esteem and psychological well-being (Ryan & Deci, 2000). Successful completion of a certification process can change self-identity. The worker may feel more like a “professional” and be more inclined to approach tasks in a problem-solving way. Possessing a certification can promote appropriate job placement in the “free agent” knowledge economy (Brown & Hesketh, 2004; Pink, 2001). Robson, Wholey, and Barefield (1996) found that in Big Five accounting firms, turnover spiked after taking the Certified Public Accountant exam, suggesting that it was useful in acquiring jobs in other organizations. The sense of having greater employability can reduce the stress normally caused by job insecurity (Ashford, Lee, & Bobko, 1989; Gillespie, Walsh, Winefield, Dua, & Stough, 2001; Pollard, 2001), allowing more energy to be focused on job performance.

The process of acquiring a certification can foster knowledge of and identification with a relevant occupational community (Livingood & Auld, 2001; Parker, Arthur, & Inkson, 2004; Wiley, 1995). Membership in that community may provide access to new work-related ideas. The certifying body and approved training institutions can be ongoing sources of information.
and assistance in job performance (Pierson et al., 2001). Research has found that capabilities can deteriorate rapidly when not used (Argote, Beckman, & Epple, 1990), and the ability to update knowledge and skills from an outside source can be crucial to remaining current. Microsoft offers a proprietary certification (Microsoft Certified Professional; www.microsoft.com) and along with it access to technical and product information, invitations to Microsoft conferences and training sessions, and subscription to a career and professional development magazine (Pierson et al., 2001). Academic degrees give access to academic and collegial professional networks (e.g., Academy of Management; www.aomonline.org) that can be drawn on for work-related information.

Thus, a certification system can foster employee development and enhance organizational performance in a variety of ways. Certifications can be valid indicators of competence and good predictors of performance. But they have a dark side as well.

“Looking Good”

Certifications can be used for extrinsic reasons that have little or nothing to do with improved employee competence or work performance. The literature on “impression management” provides ample evidence that people are prone to use impression management tactics to bolster their position in work organizations, even if these tactics have little or nothing to do with genuine performance (Elsbach & Sutton, 1992; Varma, Toh, & Pichler, 2006; Weiss & Feldman, 2006; Wright, Holloway, & Roloff, 2007). For instance, organizations may require certifications for their employees merely to impress external stakeholders, even if they give little effort to seeing that certification training or assessment actual contribute to better performance—an example of a tactic Jones and Pittman (1982) refer to as exemplification. In this vein, Bolino (1999) argues that “organizational citizenship behaviors” may be adopted merely to look good and thus acquire the rewards accruing to a “good citizen.” He suggests that organizational citizenship behaviors performed for this reason will have a weaker effect on organizational effectiveness than organizational citizenship behaviors adopted for intrinsic reasons. In political conflicts, an employee might brandish his credential as a tactic that Jones and Pittman (1982) call intimidation—“I have a certification, thus I am more qualified than you to make this decision.” That certifications can be used primarily to manage impressions in an effort to “look good” is consistent with two relevant theoretical perspectives, both of which have received much empirical support: neo-institutionalism in organization studies and the credentialism literature in education studies.

Neo-Institutionalism

“Neo-institutionalism” (DiMaggio & Powell, 1983; Meyer & Rowan, 1977; Scott, 1995) maintains that structural forms and organization practices
are often adopted merely to enhance legitimacy and may have little or no relationship to real performance. In their classic article, DiMaggio and Powell (1983) outline three different external pressures for organizations to adopt practices, none of which are directly related to improved work processes. *Mimetic isomorphism* involves imitating the practices of large and successful organizations, even when they may not be appropriate to one’s own situation. *Coercive isomorphism* means adopting practices or structures because of the superior power of regulators or dominant organizations. *Normative isomorphism* entails conforming to the norms engendered in occupational training schools, whether or not they are suited to the current situation. Practices are adopted in ways that provide maximum display to external stakeholders, but may have little or no relationship to genuine performance (e.g., King, Lenox, & Terlaak, 2005). In Meyer and Rowan’s (1977) term, they become *decoupled* from work processes. Institutional theory implies that organizations will require certifications not because of their demonstrated role in improving work performance, but as symbols of legitimacy to external stakeholders. This proposition has been supported regarding ISO 9000 certification (Guler, Guillen, & Macpherson, 2002; Renuka & Venkateshvara, 2006), ISO 14001 certification (King et al., 2005), and HR certification (Greenwood, Suddaby, & Hinings, 2002).

**Credentialing**

The “credentialing” literature proposes that formal education is often used to enhance prestige, power, status, or pay. This contrasts with its commonly accepted *official* goal, which is to impart genuine information, cognitive skills, and values relevant to such things as job performance, personal enlightenment, and improved citizenship (Berg, 1971; Brown, 1995). Collins’s (1979) influential work, *The Credential Society*, held that educational credentials have become more important to career advancement than curriculum content. Labaree (1997) furthered this theme, stating that formal education has come to serve as a “private consumer good—a mechanism for getting ahead or preserving existing advantage” (p. 2). As a result education is valued more for its formal characteristics such as “grades, credits, and degrees” than for its contributions to society such as “producing citizens who are politically responsible and workers who are economically productive.” In an analysis similar to the one advanced in the present article, he argues that emphasis on the extrinsic benefits of education has destroyed students’ intrinsic motivation, which is “derived from the process of learning itself” (Labaree, 1997, p. 251). This thesis is endorsed by Pfeffer and Fong (2002, 2004) in their wide-ranging critique of business education. They maintain that the American-style business degree has become a credential sought largely because of its acceptance and legitimacy within the business community. It provides value to students by giving access to networks, and to organizations by serving as a screening
device. But it provides little or no actual content that improves managerial practice. The overriding emphasis on extrinsic outcomes (higher salary, more prestige) produces an instrumental and cynical attitude among students, leading them to cut corners and even cheat (Pfeffer & Fong, 2004, p. 1509). This erodes the intrinsic functions of business education, namely helping to improve product quality, meeting customer needs, and fostering “critical consideration of business, business practices, and their effects on people and society” (p. 1503).

**Certification as Symbol**

There is evidence that skill-set certifications are used in ways proposed by these theories. Organizations require employee certifications to establish legitimacy with external stakeholders (DiMaggio & Powell, 1983). The number and type of certifications within an organization enhance external reputation for quality or innovation. Many organizations face coercive pressures from the environment: They must have certified staff to perform a line of work, especially where public safety is involved. The presence of appropriately certified workers may be necessary to obtain an organizational certification, for instance, those related to quality such as ISO 9000. Business school faculties must contain a threshold proportion of faculty holding doctoral degrees to obtain certification from the Association to Advance Collegiate Schools of Business (www.aacsb.edu), even though it is not well-established that research-oriented PhDs do a better job of imparting managerial skills to students than would experienced professionals (Gioia & Corley, 2002, p. 111). Employees use certification to gain greater status and rewards. Labor market economists have argued that one of the functions of certification is to provide a barrier to entering a labor market, thus increasing the wages of those possessing the certification. Weeden (2002) found that “licensing, credentialing, [and] certification” tended to create “closure” around an occupation and increase the average earnings of its members (cf. Kleiner, 2006).

Thus, there is theoretical and empirical support for the notion that certifications can be used primarily or exclusively for *looking good* and may not contribute to genuine employee development and job performance. As Gioia and Corley (2002) note in their analysis of business school rankings, “spending scarce resources for image-related features, rather than substantive program enhancements,” is having the unfortunate effect of turning schools away from the “pursuit of knowledge to the pursuit of resources” (p. 109). Furthermore, overemphasis on *credentials* can lead to their inflation and eventual devaluation in the marketplace (Collins, 2007). Lack of attention to their official purposes may render them less accurate signals of relevant skills. Ultimately, they may lose their credibility and become unattractive to employers (Aguinis et al., 2005; Wiley, 1995).
Effective Certification

An effective certification system requires (a) identifying the kinds of knowledge, skills, and abilities (KSAs) relevant to work performance (Livingood & Auld, 2001), (b) measuring these KSAs accurately (Akhter, 2001; Naquin & Wilson, 2002; Raymond, 2001), (c) providing training and experience needed to build the relevant competencies (Holton III, Bates, & Ruona, 2001), (d) assuring that certified KSAs are actually applied to work activities (Yamnill & McLean, 2001), and (e) maintaining transparency and communication among stakeholders (workers, employers, occupational associations, consumers, and the certifying agent; www.noca.org). Doing all these things well is problematic (Burns, 1985; Hale, 2000; Hamm, 1999; Kane, 2004; Naquin & Wilson, 2002). The National Organization for Competency Assurance claim that they improve certification effectiveness by providing information, training, and standards for the 88 certification programs, primarily in health care and human resources, currently accredited by them (www.noca.org). Certification testing is crucial and yet consensus seems to be that assessing validity is difficult (Raymond, 2001; Sackett, Schmitt, Ellingson, & Kabin, 2001). In an analysis of six different occupations, Torraco (1999) concluded that the skills needed for successful job performance were often context specific and/or distributed among a whole team of workers. This would make them difficult to identify and measure in a certification examination.

Certification tests are usually based on job analysis (or practice analysis), but there seems to be little consensus on which methods are best (Raymond, 2001). A variety of testing formats are used (Shimberg, 1981), but the most common one, multiple choice, does not seem able to capture professional judgment (Raymond, 2001). Written tests cannot directly measure the unobservable or tacit knowledge usually important to effective practice. Few studies have directly examined the relationship between certification test scores and future job performance (Kane, 1982; Raymond, Neustel, & Anderson, 2007), and those that have been conducted sometimes find little relationship (Cegielski, Rebman, & Reithel, 2003; Livingood & Auld, 2001; Wiley, 1995). Kleiner (2006) reviews studies on occupational licensing and reports positive effects on service quality in some cases but little or none in others. Indeed, researchers have concluded that certification tests cannot be held to the standard of predictive validity—that the test predicts effective future job performance (Kane, 1982, 2004; Shimberg, 1981). Instead, only content validity is seen as relevant (La Duca, 1994; Raymond, 2001)—whether the test taps into the knowledge and skills judged necessary for good practice. Thus existing empirical research on employee certifications gives minimal support to the proposition that they are valid indicators of “being good.” We suggest that this is known or guessed by relevant stakeholders and can contribute to their being used primarily for looking good.
Importance of Internal Motivation

Given the difficulties involved in identifying and assessing relevant competencies, we suggest that stakeholders are likely to be aware of the difficulties and that extrinsic motivation for certification may become prevalent. The thinking will be, “Getting this may not help me do a better job, but it does enable me to obtain this position,” or “This certification doesn’t assure that my employees are competent, but requiring it makes us look better to customers.” But there is a paradox here. Because of measurement difficulties, internal motivations may be less common than externally driven ones, yet precisely because of these difficulties internal motivations may be all the more important. If testing had complete content and predictive validity, it would matter less what motivated the various stakeholders, because certificates would perfectly signal relevant competencies. Given that this most likely is not the case (Aguinis et al., 2005; Livingood & Auld, 2001), we argue that it is all the more crucial for participants in the system to fill in the gaps and help make the system work as intended. Certifying bodies must strive continually to determine relevant standards and valid assessment procedures and not be content to see their procedures as a kind of *initiation ritual*, which requires effort and weeds out some applicants, but is little related to actual job performance. This will require considerable effort to monitor work process and provide opportunities for involvement and feedback, especially when jobs are complex and dynamic (Torraco, 1999). Occupational associations can be tempted to support high certification hurdles even if minimally related to work performance because a high hurdle will restrict labor supply and enhance the financial position of members. But to be consistent with their official purposes, the associations must retain strong internal commitment to creating a genuine learning community that promotes the development of relevant knowledge and skills among its members. Employing organizations need to monitor how certified skills contribute to work performance and be ready to give feedback to those providing training and setting standards. Workers will play a central role; when taking certification-related training they should bring up their work experiences and question how the material taught is relevant. They must strive to learn basic principles, and most importantly to learn *how to learn* from the work situation.

The logic behind these assertions is similar to that used by Ouchi (1980) in his model of *clan* control in organizations. Clan control (rather than market or bureaucracy) is appropriate when it is practically impossible to measure individual worker performance, meaning that performance evaluations and differential rewards cannot be effective means of control. Instead, one must build a strong and cohesive culture through careful selection and intensive socialization. This inculcates appropriate work standards and helps align member goals and values with those of the organization. Workers then have internal motivations to produce competent work even when extrinsic
inducements such as individual pay are not practical due to the inability to measure individual performance accurately. We suggest that certification systems are in a similar position: given difficulties in measuring relevant KSAs, internal motivation, and commitment of stakeholders are required to make the certifications effective.

### Self-Determination Theory

To describe the role of internal motivation we will use Self-Determination Theory (SDT) as it has been developed by Edward Deci, Richard Ryan, and others (Baumeister & Leary, 1995; Deci & Ryan, 1985, 2000; Deci, Eghrari, Patrick, & Leone, 1994; Gagne & Deci, 2005; Vansteenkiste, Deci, Sheldon, Simons, & Lens, 2004; Vansteenkiste et al., 2007). SDT is useful here for three reasons. First, it incorporates a range of theories regarding the role of internal and intrinsic motivations in the workplace (see Sachau, 2007). Second, it is supported by much empirical research (Deci, Koestner, & Ryan, 1999; Hodgins & Liebeskind, 2003). Lewis and Neighbors (2005) found that undergraduate research subjects who were more self-determined (a key feature of internal motivation) were less likely to say they would use self-presentation tactics in a scenario described by the researchers. Drory and Zaidman (2007) studied the use of impression management practices in organic versus bureaucratic organizations. Organic organizations are less hierarchical and typically more concerned to develop strong intrinsic work motivations in their members. This study of 208 employees of military and R&D organizations found that members of the mechanistic organization (the Military) were more likely to use impression management tactics, and these were aimed primarily at supervisors. In contrast, members of organic organizations (R&D) were less likely to use impression management, and these were directed equally at supervisors and colleagues.

Third, SDT provides a sophisticated analysis of the various types of motivation likely to be present among those seeking or using employee skill-set certifications (see Table 1). That intrinsic motivation can be a powerful force in the workplace has been argued by a number of writers (Deming, 1986; Herzberg, 1966; Herzberg, Mausner, & Snyderman, 1959; McGregor, 1960; Veblen, 1922). Ryan and Deci (2000) describe intrinsic motivation as “the inherent tendency to seek out novelty and challenges, to extend and exercise one’s capacities, to explore, and to learn” (p. 70). Research indicates that it produces a variety of benefits: more involvement with an activity, better task performance, greater task persistence, higher satisfaction, and a sense of personal well-being (Baard, Deci, & Ryan, 2004; Deci & Ryan, 1985; Lynch, Plant, & Ryan, 2005; Utman, 1997). It is especially important for tasks “requiring creativity, cognitive flexibility and conceptual understanding” (Gagne & Deci, 2005, p. 337).
<table>
<thead>
<tr>
<th>(a) Amotivation</th>
<th>(b) Extrinsic</th>
<th>(c) Introjected</th>
<th>(d) Identified</th>
<th>(e) Integrated</th>
<th>(f) Intrinsic</th>
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<tr>
<td>Absence of intentional regulation</td>
<td>Contingent on reward/punishment</td>
<td>Self-worth based on task performance</td>
<td>Endorsement of goals and values</td>
<td>Coherence with personal goals/values</td>
<td>Interest in and enjoyment of task</td>
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<td>No motivation</td>
<td>Controlled</td>
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<td>Moderately autonomous</td>
<td>Autonomous</td>
<td>Inherently autonomous</td>
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External motivation | Internal motivation
However, SDT research has shown that many of these same benefits accrue to extrinsic motivations that have been significantly internalized by the actor (Ryan & Deci, 2000, p. 73). Such motivations are likely to be common among stakeholders in the certification process. They are often driven by the desire for extrinsic rewards (higher pay, greater status, promotion, etc.), but at the same time they may agree in large part with the reasons for having the certification. A predominantly external motivation (external regulation) means seeking certification only because it can bring rewards, while believing that it is almost completely irrelevant to job performance. Introjected regulation represents a step toward internalization but is still predominantly controlled by external factors. A person having this motivation will want to appear “valuable, genuine, hardworking, and interested” but not necessarily want to have these characteristics themselves (Lewis & Neighbors, 2005, p. 471). A worker with introjected extrinsic motivation for certification may say: “I will seem inferior to my colleagues if I don’t get this certification.” Identified regulation is more internalized still. This includes behaviors that are personally important but not fully integrated with other aspects of the self. A manager with identified extrinsic motivation for certification may require it of workers because she knows that it is used in other organizations with good results. But she may have little direct experience with it and thus not fully comprehend how and why it works. Integrated regulation is the most internal or autonomous form of extrinsic motivation because the action is experienced as fully coherent with personal goals and values. A worker with integrated extrinsic motivation for certification may not only seek it to obtain a promotion (extrinsic inducement), but also accept that it will build competencies felt to be important to his/her work performance and career development (integration with goals and values). Intrinsic motivation is the most internalized type: the perception that an activity is inherently stimulating and energizing to perform.

**Motivations for Certification**

Intrinsic motivation involves viewing preparation, training, assessment, and application activities as interesting and challenging. It is associated with task enjoyment (Ryan & Connell, 1989) and successful performance of activities that are inherently interesting and challenging (Koestner & Losier, 2002). But commitment may fail if boring and irritating tasks are encountered. Autonomous extrinsic motivations generate greater effort and better completion of tasks that are not inherently stimulating (Gagne & Deci, 2005; Ryan & Connell, 1989). The person does not expect the activity to be interesting, but stays the course because he or she endorses the reasons supporting it. Autonomous extrinsic motivations may be crucial for completing certification processes, which can be demanding and may contain portions that do not initially appear relevant to one’s job (Wiley, 1992). For example, becoming an Oracle Database Administrator Certified Master (www.oracle.com) involves a
series of intensive exams and training courses. Obtaining the Professional in Human Resources (PHR) certification (www.hrci.org) requires a lengthy, intensive conceptual exam (more than 200 questions in 4 hours). Internal motivation, whether extrinsic or intrinsic, seems especially valuable for training associated with certification examinations.

**Internal Motivations for Certification Training**

Internal motivation has been associated with more engagement in the learning process and with greater amounts of learning (Deci & Ryan, 1985; Ryan & Deci, 2000; Vansteenkiste et al., 2004). Internal motivation for training should enhance readiness to apply new knowledge and skills to work activities—what has been referred to as *training transfer* in the training literature (Burke & Hutchins, 2007; Cheng & Ho, 2001; Holton III et al., 2001; Yamnill & McLean, 2001). In their comprehensive review of the training transfer literature, Burke and Hutchins (2007) report that successful application of training to the work context is enhanced by intrinsic motivation. Cheng and Ho (2001) concluded that training transfer was improved by intrinsic motivations and that such motivation was higher in work environments (which they call *continuous-learning cultures*) where there were opportunities and encouragement for applying what was learned to the job. Facteau, Dobbins, Russell, Ladd, and Kudisch (1995) looked at the impact of 11 possible factors on *pretraining motivation* of a sample of managers and supervisors. By far the strongest determinant was *intrinsic incentives* ($\beta$ weight of .51 in their structural equation model), as indicated by the following survey item: [I take training] “because it provides me with skills that allow me to be more effective on the job.” In contrast, extrinsic incentives had almost no effect on motivation ($\beta = .02$). The strength of motivation had a strong positive effect on perceived training transfer ($\beta = .35$), as measured by this item: [The] “productivity of subordinates improved due to the skills” that were learned (Facteau et al., 1995, p. 9). Holton et al. (2001, p. 344) found that workers are more likely to learn and to apply their knowledge if they are internally motivated, being “excited . . . when I think about trying to use my new learning on the job.” Internal motivations also lead to higher quality learning, including greater conceptual understanding and knowledge of basic principles (Grolnick & Ryan, 1989; Ryan & Deci, 2000). This is especially important for applying certified KSAs to work activities, because problems encountered may often not fit precisely into established procedures but must be solved using basic principles. Deeper learning seems most appropriate for what Yamnill and McLean (2001) call *far transfer*, that is, application to situations dissimilar to those encountered in training. *Principles theory* suggests that “training should focus on the general principles necessary to learn a task so that learners can apply them to solve problems in the transfer environment” (Yamnill & McLean, 2001, p. 201).
Other Effects of Internal Motivation

Internal motivation has also been linked to acceptance of change (Gagne, Koestner, & Zuckerman, 2000; Kirkpatrick, 1985). This is important in the certification process because information, procedures, and principles often need to be updated (Raymond, 2001). Those who approach certification for internalized reasons should be more willing to apply what they have learned to ever changing circumstances. This will increase what Miner and Mezias (1996) call generative learning and help extend and extend the employee’s knowledge and skills. Furthermore, internal motivations are associated with greater trust of management (Deci & Ryan, 1985), and trust has been identified as a key ingredient of organizational learning (Yeo, 2005). Internally motivated activities generate positive emotional outcomes such as satisfaction and a sense of well-being (Brunstein, Schultheiss, & Grassman, 1998; Deci & Ryan, 2000; Sanderson & Cantor, 1997; Shirom, Westman, & Melamed, 1999). Satisfaction associated with certification preparation and assessment should increase commitment to the process, making the employee more motivated to choose higher levels of certification if they are offered, more willing to be recertified, and more likely to offer constructive feedback to the certifying agency.

Thus, the SDT literature suggests that internal motivations for certification are more likely to foster a commitment among employees and employing organizations to use them in ways that foster development and enhanced performance. This assumption seems supported by the empirical research we have reviewed. This next section suggests ways in which internal motivations for certification can be enhanced.

Enhancing Internal Motivation

Interpersonal Context

SDT writers have suggested that internal motivations can be enhanced by the appropriate interpersonal context in which activities are presented (Deci, Connell, & Ryan, 1989; Lynch et al., 2005; Richer & Vallerand, 1995; Senecal, Vallerand, & Guay, 2001). They are adamant about what to avoid—closely tying differential individual rewards (especially monetary ones) to level of measured task performance. A stream of research has shown that extrinsic rewards tend to decrease intrinsic motivation (Deci et al., 1999). SDT outlines a variety of ways to present even extrinsically motivated activities in ways that enhance internalization by participants; supporting a person’s needs for autonomy and competence while performing such activities is crucial. Three autonomy-supportive behaviors have been identified (Deci et al., 1994; Gagne & Deci, 2005; Richer & Vallerand, 1995). First, one needs to provide a meaningful rationale for the activity. This involves explaining why the task is important, whom it may help, what values it promotes, and so on. The worker
will then understand and even accept why the task should be done, rather than just giving in to the orders of the supervisor. Second, one should provide as much choice as possible. For instance, a person can be given choice of different tasks, alternative ways of carrying them out, or when to do them. Third, it is important to acknowledge a person’s feelings about the activity and give opportunities for feedback. Having one’s perspective understood apparently helps reduce the sense that the task is externally imposed. Deci et al. (1989) give a brief vignette of autonomy-supportive behavior: “It involves the manager listening, acknowledging feelings, providing feedback if appropriate, and encouraging the subordinates to decide how to handle problems” (p. 583). This contrasts with a highly controlling approach: “The manager prescribes a solution, with no inputs from the subordinate, and uses sanctions such as rewards or punishments to ensure that the solution is used” (p. 583). Deci et al. (1989) have shown that managers can be trained to perform these behaviors.

Finally, the person’s sense of competency must be reinforced (Burke & Hutchins, 2007; Gagne & Deci, 2005). This can be done through providing informational feedback regarding successful actions. SDT research has found that extrinsic rewards tend to reduce autonomous motivation, but can indirectly enhance it if they are predominantly informational rather than controlling (Deci et al., 1999; Ryan, Mims, & Koestner, 1983). Hence, positive verbal feedback supports internal motivation if it sticks to commenting on the quality of the work accomplished; it can reduce internal motivation if it is perceived as merely controlling.

**Presenting Certification to Participants**

Certifications often have significant career consequences and thus involve what has been referred to as high-stakes testing (Sackett et al., 2001). Research has shown that high stakes testing has had a variety of negative effects on learning among students. Intense pressure to perform on tests leads to a controlling style of teaching, which produces more superficial learning, reduced long-term commitment to learning, lower self-esteem, and psychological and actual withdrawal from school (Ginsburg & Bronstein, 1993; Grolnick & Ryan, 1989; Vallerand & Reid, 1984). In the following sections, we suggest how certifications can be presented in ways that minimize negative effects and maximize internal motivation. This involves giving a persuasive rationale for certification, acknowledging participant feelings, giving opportunities for feedback, and supporting participants’ sense of competency.

**Rationale.** The first task is to provide a rationale for the certification, that is, why it may be required or recommended and how it contributes to task performance. An organization may require an otherwise voluntary certification for its employees to increase external legitimacy, perhaps using it in its mission statement or advertising. It should then explain to employees why this strategy
was adopted (e.g., results from a marketing survey may indicate that customers are more likely to purchase products from organizations whose employees are certified in a particular skill set). Research suggests that an important rationale for taking training is the perception that the knowledge and skills learned are useful in the workplace. Burke and Hutchins (2007) report that successful training transfer is enhanced by the perception that it is linked to job performance. Successful transfer of training has been shown to be a function of the transfer climate (Burke & Hutchins, 2007; Cheng & Ho, 2001; Noe, 1986; Yamnill & McLean, 2001), specifically opportunities to use the new skills and knowledge in the job setting and support from peers and supervisors to apply it (Holton et al., 2001). Organizations need to clarify how certified knowledge and skills can enhance job performance. They should attempt to develop work climates in which employees discuss what they have learned and are encouraged to use it in their work. Occupational communities can provide a more elaborate and theoretical grounding for the role of certification in enhancing a professional identity and developing a professional learning community. The certifying body have the most critical role. They need to document that the competencies being measured are important to work performance, including both task-related and extra-role behaviors (Blumberg & Pringle, 1982). They also must justify the assessment procedure used for certification.

**Acknowledgment and feedback.** Managers need to acknowledge worker feelings regarding certification. Employees may consider the time required to prepare for and take a certification exam as an unnecessary interruption in a busy work schedule. They may have doubts about whether the certification assesses crucial work skills. Managers need to listen to these feelings. There should also be opportunity for feedback. Burke and Hutchins (2007) suggest that training transfer is enhanced by having stakeholders involved in training design. Certifying bodies can survey holders and users regarding their experiences and problems and elicit suggestions for how to improve the system. Certificate holders can give feedback about the relevance of the training and the validity of the assessment measures used. Organizations can report on contribution to in-role and extra-role task performance. The experience of being heard, and of having some impact on how the system is designed, should increase the sense of autonomy involved in obtaining or using a certification, even if it should be mandatory.

**Competence.** Certification assessments can be used to increase a person’s sense of work competency. Finding out about the quality of one’s performance is the first step in improving it. Frequent feedback can be given about how one is doing in the preparation process. Certification agencies may make practice exams available to applicants. Instead of just saying whether one has passed or failed the exam, they can give scores for each segment of the exam so the person knows which areas need to be improved. They can also provide suggestions for further reading and guidance about how and where to obtain relevant
training. Organizations need to make sure that rewards given for obtaining certifications, or for using certified skills in the work process, are recognitions of accomplishments, not implicit threats that rewards will be withheld in the future if further certification goals are not met.

Thus, extrinsic rewards may continue to play a role in decisions to obtain and use certifications. But workers and employers can be led to endorse their usefulness in the workplace. For instance, undergoing a certification process may increase awareness of other occupational members and be instrumental in building an occupational learning community, whose work values are understood and adopted. Extrinsic motivation may thus become integrated—largely autonomous and consistent with the worker’s personal goals and work values. We suggest that whether this is accomplished is a function of how the certification process is designed.

**Designing the Certification Process**

In their influential model of job design, Hackman and Oldham (1980) have proposed five job features that promote internal motivation: task variety, significance, autonomy, feedback, and performance of a whole task. Their model is consistent with SDT, which has identified job complexity, challenge, importance, and participation as conducive to internal motivation (Gagné & Deci, 2005). Particularly important are autonomy-supportive contexts, characterized by worker empowerment, flexible rules, and coherent rationales for the activity (Baard et al., 2004).

The Hackman–Oldham (1980) model contains two stages: core job traits impact the critical psychological states of meaningfulness, responsibility, and knowledge of results; these three states then produce high internal motivation. There are five core traits. **Skill variety** is a function of job complexity and the number of different skills necessary to complete it. **Task identity** refers to performing a definably whole task, rather than just a small part of it. **Task significance** means doing something that is felt to be important, in particular having a positive impact on customers or society as a whole, or pursuing an important value of the worker. These three features enhance meaningfulness—the extent to which the worker can feel that the task expresses an important part of his or her self. **Job autonomy** is the ability to direct one’s own activities and not be closely controlled by a supervisor. Autonomy leads to a sense of responsibility about task performance—it is up to the worker to see to it that the task is performed well. **Feedback** means the worker can assess his or her own performance merely from doing the job and observing results, rather than through information provided by colleagues or supervisors. The ability to gauge success can provide inherent satisfaction in a job well done. Internal motivation is increased for the reasons given in SDT theory: the job presents challenge and thus the opportunity to exercise and develop skills; it deals with tasks that are important to the worker’s identity and values; and it provides
opportunity to assess one’s competence. Introjection and integration of extrinsically rewarded work is increased if the significance of the task is well explained to the worker. Table 2 indicates how these features can be incorporated in a certification system.

**Application to Certification**

First, it is important to include a wide *variety* of information and skills in certification training and assessment. This can mean multiple levels of competency: information, procedures or *algorithms*, basic principles, practical skills and tacit knowledge, and a sense of vision and mission—the impact on organizations, customers, and society as a whole. Occupational associations can contribute to this by helping to identify requisite competencies and sound assessment procedures, drawing on the diverse experiences and perspectives of their members. The second feature is *task identity*, namely the sense of producing an entire piece of work, not just a small part of it. Of course, any worker who becomes certified has to undergo the entire process to be successful. But there is another deeper sense in which task identity can be provided. The competencies required of certification can be perceived as an integrated whole—a coherent body of knowledge and skills grounded in a set of principles and related to a compelling mission.

Third, certification activities can presented in ways that make them seem more *significant* to participants. Reading a manual in preparation for a certification exam can be experienced as (a) learning a series of facts and diagrams in a specific chapter; (b) helping to increase competency and contributing to task performance; or (c) improving the ability to meet customer needs. Certification will be considered most significant by workers and employers if they perceive (b) and especially (c). Because what counts here is perception, it is crucial to document for participants how and why certification has these effects or what Hale (2000) calls making the *business case* for certification. Organizations can show the connection between certification and performance, including how it enhances the ability to meet customer needs. Occupational communities can emphasize the extent to which certified competencies contribute to societal needs. Certifying bodies can play a key role conducting research and providing information that shows the importance of their certifications.

The fourth feature, *autonomy*, can be built into the design of the system. There may be choice of different areas and levels of competence. For example, the Institute for Certified Computer Professionals provides certification in 17 different specialties (Pierson et al., 2001). There can be alternative ways of preparing for assessment. This might involve different training institutions, different training modalities, and a choice between classroom training, self-instruction, or on-the-job experience. Research on training transfer has found...
### TABLE 2: Design of Certification System Following the Hackman–Oldham Model

<table>
<thead>
<tr>
<th>Characteristics of Certification System</th>
<th>Critical Psychological States</th>
<th>Outcomes</th>
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<tbody>
<tr>
<td>Skill variety</td>
<td></td>
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<tr>
<td>Multiple sources of training</td>
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<tr>
<td>Several different testing procedures</td>
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<td></td>
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<tr>
<td>Range of specialties and levels of competence</td>
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<tr>
<td>Task identity</td>
<td></td>
<td></td>
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<tr>
<td>Competencies required are presented as</td>
<td>Experienced meaningfulness</td>
<td></td>
</tr>
<tr>
<td>an integrated system</td>
<td>of the certification process</td>
<td></td>
</tr>
<tr>
<td>Task significance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Content of certification exams reflects</td>
<td></td>
<td></td>
</tr>
<tr>
<td>real job requirements</td>
<td></td>
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<tr>
<td>KSAs obtained in training are shown to</td>
<td></td>
<td></td>
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<tr>
<td>be relevant to task performance</td>
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<td></td>
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<tr>
<td>Autonomy</td>
<td></td>
<td></td>
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<tr>
<td>Candidate may choose optional means</td>
<td>Experienced meaningfulness</td>
<td></td>
</tr>
<tr>
<td>of certification assessment</td>
<td>of the certification process</td>
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<tr>
<td>Candidates have choice of when to</td>
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<tr>
<td>schedule training and certification assessment</td>
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<tr>
<td>Workers have freedom in applying KSAs to their work</td>
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<tr>
<td>Feedback from job</td>
<td></td>
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</tr>
<tr>
<td>Certifying bodies promulgate when and</td>
<td>Knowledge of the actual results of training and assessment</td>
<td></td>
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<tr>
<td>how to apply KSAs to work situations.</td>
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<tr>
<td>Companies track use of certified KSAs</td>
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<tr>
<td>Workers are encouraged to record how</td>
<td></td>
<td></td>
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<tr>
<td>and when KSAs are used at work.</td>
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</table>

NOTE: KSA = knowledge, skills, and abilities.
that transfer is enhanced by giving workers choice in how and when to apply the training to their work situations (Noe, 1986; Yamnill & McLean, 2001). A practice sometimes used in certification is self-assessment, where workers voluntarily undergo testing to get feedback on the currency of their skills (Shimberg, 1981). Related to autonomy are opportunities for inputs from stakeholders, which Livingood and Auld (2001) have suggested are crucial to the success of health education certification. Ford and Kraiger (1995) found that greater worker say in the training process increased the amount of complex knowledge and skills learned and made it more likely that they would be applied in the work place.

Finally, certification systems need to provide workers with feedback about the relevance of certified competencies in improving work performance. Certification training programs can provide ways to keep a running account of how this knowledge and skill is used in the work process and how it impacts the outcomes. A work climate conducive to training transfer can help recognize how and when relevant competencies are used.

Although there is no empirical research documenting its success, a certification program that seems designed to encourage internal motivations is the Certified Performance Technologist sponsored by the 10,000 member International Society for Performance Improvement (ISPI). ISPI defines performance technology as “a systematic approach to improving productivity and competencies, us[ing] a set of methods and procedures—and a strategy for solving problems . . .” (www.ispi.org). Those certified are professionals in training, human resources, organizational development, and other performance-enhancement positions. Certification assessment does not involve an exam, but rather 3 years of experience and documentation of at least three cases of performance improvement attested by supervisors and/or clients. Recertification is required every 3 years using similar criteria. Support is provided for genuine professional development: two journals (one research and the other practitioner oriented), a newsletter, a bookstore, an annual conference, periodic workshops, small grants, and assistance to organizations in using certified professionals effectively. Membership in the ISPI includes sponsorship of local chapters, career support, and access to an Internet-based network, which can meet the attachment needs that SDT argues support internalization.

Discussion and Conclusion

Summary

We have argued that employee certifications have a double-edged character: they can enhance genuine learning and work performance, and yet may be used mainly as credentials to gain prestige, rewards, or influence. We developed two general propositions based on self-determination theory and task design theory: greater internal motivation for certification will enhance its ability to generate
true learning and performance; and strategies are available to increase internal motivation. It seems likely that internal motivations are encouraged in what Senge (1990) has called the “learning organization” (Thomas & Allen, 2006). Learning in such an organization is not just an individual endeavor, but the result of an infectious climate that promotes learning. The burgeoning literature on learning organizations makes numerous suggestions about how to develop such a climate. Important are reinforcing cues from supervisors and fellow workers (Holton III, Bates, Seyler, & Carvalho, 1997). Open communication leads to widespread sharing of new ideas and numerous attempts to test and refine them. Knowledge is broadened, deepened, and revised as numerous members attempt to apply it to work activities. This enhances double-loop learning—learning how to learn through problem solving (Yeo, 2005). Employees in a learning organization are more likely to offer feedback to other stakeholders that will improve the certification process. The certifying agency can gather these ideas, revise standards and procedures, and make this available to participants through its Web site, literature, and sponsored training programs, leading to what Miner and Mezias (1996) call “population-based learning.”

Suggestions for Research

The claims we have made in this article need to be examined empirically. Specifically, research should investigate the types and strength of motivations for certification, factors that generate these motivations, and their effects on the functioning of the certification process. This would include motivations among the workers who seek them, the employers who use them, the occupational associations who sponsor and advocate them, and officials in the certifying agencies that provide them.

The relationship between types of motivation to certify and work orientations should also be investigated. Wrzesniewski, McCauley, Rozin, and Schwartz (1997) outline three different orientations people can have toward their work: as a job, a career, or a calling. Work is viewed as a job if the primary interest is the material benefits provided. This orientation would seem to generate the form of motivation to certify called external regulation. Certification is sought only to gain extrinsic rewards such as higher pay. A career orientation means the person views their work as a means of acquiring higher social status, power, and self-esteem from the work. This orientation seems likely to generate the form of motivation referred to as identified regulation. Certification would be pursued primarily as a means of building self-esteem and social status. Work is viewed as a calling if it is done for the satisfaction and fulfillment it provides, as well as its contributions to clients and society. Such an orientation would seem to incline the person toward highly internal motivations for certification: integrated extrinsic and intrinsic motivation.

Researchers will need to be aware of key differences among certification systems that can affect participant motivations:
1. Certifications vary in scope of expertise, from a whole domain of knowledge and skills, such as is typical of professions, to more narrow skills, such as tow truck operator. Internal motivations may be more likely and more crucial when the scope is broad. There is evidence that occupations requiring a broader knowledge base, for instance the traditional professions, are more likely to be treated as a calling by their members (Wrzesniewski et al., 1997, p. 30).

2. Whether the certification is mandatory or voluntary will have important effects on motivation. Mandatory certification (licensing) seems likely to generate extrinsic motivations, because it is a precondition for working in a field. But intrinsic and autonomous extrinsic motivations may also be present if certification is designed and presented using the techniques discussed in this article. This may be truer of professional certifications, because the full professions have considerable prestige and legitimacy. People may be more likely to accept the need for restrictive standards to keep unqualified people from practicing.

3. Certifying bodies range from government agencies, occupational and professional associations, special-purpose certifying bodies, user-organizations (this is common in IT, for instance, Microsoft certifications), and even internal certifications, which apply only to one organization. Internal motivations may be more likely when an occupational/professional association is the certifying agent, because it may have more legitimacy with participants.

4. Certifications vary in the nature of competencies dealt with: codified knowledge (procedural or heuristic), tacit knowledge, practical skills, and character traits such as reliability and honesty. Internal motivations seem more important for occupations requiring much tacit and practical knowledge, because it is more difficult to develop valid assessments for them.

5. Assessment procedures include written exams, oral exams, observation of performance (in training or apprenticeship situations, or at work), attendance at training courses (graded and ungraded), work performance evaluations by supervisors, and portfolios of accomplishments (Hale, 2000). The commonly used multiple-choice testing format seems more likely to elicit external motivations, because participants may not see it as capturing real work competencies. As with assessing student performance in schools, it may be important to include a full range of assessment techniques, even if they are more costly and may have less statistical reliability than written multiple-choice tests. Broader, more qualitative assessments may be more valid and may be perceived to be so by workers and employers, thus generating greater internal commitment to the certification process.

**Conclusion**

Employee skill-set certifications are likely to increase in prevalence and importance as workers become more mobile and as organizations increasingly recruit from distant locations and rely on services from little-known providers. Third-party certifications provide a convenient and relatively inexpensive way to estimate the nature and quality of competencies. However, as the utility of certifications increase, so may the tendency to deploy them as symbols to gain prestige, power, and rewards. Dealing with this will be an ongoing challenge for those wishing to maintain the integrity and effectiveness of certification systems. To be sure, many technical and institutional factors are involved in certification systems, as has been developed by many authors (Hale, 2000;
Raymond, 2001). In this article, we have suggested looking at one little-examined factor, namely the nature of motivations involved in obtaining and using certifications. Greater internal motivation among all parties can, we suggest, enhance their intended purposes and keep in check the tendency to use them merely for their symbolic value.

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