

Organisational knowledge creation in Norwegian football: From talk to text

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Translation from Norwegian

Published on idrottsforum.org 2017-10-12

This article discusses knowledge creation in Norwegian football, how and to what extent work is done to externalise and preserve tacit knowledge at association and club level, and the differences in approach to knowledge management at those two levels. It is based on a qualitative research design with fourteen interviews. Five of the interviewees work for the Norwegian Football Association (Norges Fotballforbund, NFF), and nine of them work in two leading clubs.

The theoretical starting point for the study is Nonaka's (1994) Organizational Knowledge Creation Theory. The results of the study show that at both association and club level cultural norms for knowledge creation exist in varying degrees. Tacit knowledge is based on a selection of experiences drawn largely from the world of football in which different career patterns, education and work experience contribute to variation in the process of knowledge creation. There are also organisational cultures at both association and club level which are well suited to this kind of knowledge creation. These cultures manifest themselves in cultural norms and rules for the social contexts in which knowledge is created. These include coaches' meetings and observation at the training ground.

There are a number of challenges for the development of good knowledge creation practices in Norwegian football. The most significant one relates to the ability of the organisational culture to record new knowledge in written form. This ability is either totally lacking or exists in a form which is only effective for the transmission of established knowledge. The way the association and the clubs create written records is critical for

further progress. As the association is at the top of the hierarchy and sets the direction for clubs at grass-roots level, the way it records knowledge has consequences which go beyond its own culture.

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Introduction¹

In an opinion piece published on 24 May 2016, the then manager of the national team, Per Matthias Høgmø (2016) wrote about the differences between Norwegian and international football. Høgmø pointed to a SWOT analysis published by the Norwegian Football Association (NFF) and the organisation for the top two divisions of men's football, Norsk Toppfotball (NTF), which compared the standing of football in Norway and other European countries. Norwegian football was shown to lag in two out of seven areas - player development, and research and organisational knowledge creation.

These developmental concepts are also prominent in NFF's business plan for 2016-19 in which player development is discussed as one of three areas for investment in the period ahead (Norges Fotballforbund, 2016a). The plan emphasises the desirability of improving the skills of developmental staff and sees the development of coaches and their role as the most important precondition for good player development.

The development of coaches is thus a crucial skills area and training and support for trainers is seen as the key to further development of Norwegian football and its players. NFF has identified a number of challenges here, including how to acquire up-to-date coaching skills and how to develop coaches on the job. In response to these challenges, NFF wants to develop a structure for collaboration between the top clubs and NFF circles with the aim of raising the level of qualifications among today's coaches through implementing it into their daily practice (Norges Fotballforbund, 2016a). The NFF website identifies two different forms of training for coaches. These are connected respectively to the role of the coach and player development. The website also provides digital resources and relevant courses on specific subjects (Norges Fotballforbund, 2016b).

NFF's objective of capability building in coaching development includes an offer to football coaches to acquire knowledge about the coaching role. This can be understood as *explicit knowledge* since it is easily articulated, shared and made available to others (Nonaka and Krogh, 2009; Tangen, 2004). These courses are offered as a theoretical schooling for club coaches and as such should be identified at club level. Scrutiny of various clubs' records, or in some cases their lack of records, shows that there is very little evidence that the principles proposed by NFF has found its place in the day

¹ The article is based on Nesse's Master thesis (2016) *Kunnskapsutvikling i norsk football: Fra tale til tekst*.

to day work of the clubs. This suggests that, to a large degree, clubs are led by *tacit knowledge* based on individual experience, context and personal interpretation (Dreyfus, Dreyfus and Athanasiou, 1986). This has implications for developmental potential at both association and club level since every organisation is dependent on a form of knowledge creation if it is to achieve its desired outcomes (Hannah and Lester, 2009).

Judging by the data presented by Per Mathias Høgmo, however, Norwegian football is not capable of achieving the outcomes it wants since knowledge creation is not being managed satisfactorily. In other words, the means for achieving the objective do not exist. It is natural to ask therefore how Norwegian football is dealing with knowledge creation, which challenges confront it, and what are the likely consequences. To illustrate this theme, we begin by examining player development, for which skills development for the training staff is of central importance. The aim of the article is to explore the relationship between tacit and explicit knowledge and the role which they play in NFF's cost-benefit calculation for player development.

Theory

Knowledge creation is “the process of making available and amplifying knowledge created by individuals as well as crystallizing and connecting it with an organization's knowledge system” (Nonaka et al. 2006, p.1179). It can be understood as the interaction between tacit and explicit knowledge along a continuum. Its aim is to make individuals' tacit knowledge accessible to a community of practitioners (Erden, von Krogh and Nonaka, 2008; Gotvassli, 2007; Nonaka, 1994). The concept of *knowledge* is situated in a highly complex field alongside similar concepts such as *information*, *skills* and *ability* (Nonaka, 1994). Put simply, *information* can be understood as a stream of data, providing the background for knowledge, while *skills* and *ability* suggest a capacity or technique which make it possible to carry out tasks and address problems in an appropriate manner (Nonaka, 1994). Together, these concepts provide an ability to act on the basis of knowledge (Gotvassli, 2007).

Knowledge can be split into two different forms, explicit and tacit. Despite the lack of consensus about its definition (Ng Sin, 2008), tacit knowledge is understood as an individual form of knowledge acquired from an individual's experiences, their context and the individual's interpretation of them (Dreyfus et al., 1986; Griffiths, Boisot and Mole, 1998; Johnson-Laird,

1983). This includes a human processing and interpretation of experiences through senses, predispositions, physical circumstances and intuition (Tangen, 2004). Hence an individual's tacit knowledge is subjective, grounded and veracious (Nonaka, 1994; Nonaka & Takeuchi, 1995; Takeuchi, 1998). This conviction will also enable the individual to draw new conclusions which in turn will return in him or her better addressing the task in hand (Benner, 1994).

Against this background, four categories of tacit knowledge can be identified (Lubit, 2001). The *first* comprises practical skills and knowledge derived from physical activity, while the *second* refers to the individual's creation of mental models in response to specific situations. These models are unconscious but determine how situations are understood and analysed (Lubit, 2001). The *third* category refers to the way in which tacit knowledge influences decision making using these models, and the *fourth* is associated with the operational logic of the organisational culture.

In football and sport generally, tacit knowledge is largely discussed as *experience*. Experience is highly valued since knowing which skills, rules, strategies etc make for good performance contributes decisively to competitive advantage. Reflection is then required to transform experience into knowledge. The best way to acquire such knowledge is through a combination of participation and mastery learning. (Kvale, Nielsen, Bureid and Jensen, 1999; Sullivan, Gee, Feltz and Vitel, 2006).

Coaches, managers and players who have acquired this kind of tacit knowledge have what is called *sports knowledge*. This is based on their tacit knowledge of the game (e.g. knowledge about skills) and the role of the coach (e.g. knowledge strategy, teaching methods, physical and mental training) (Rosca, 2014). Feltz, Chase, Moritz and Sullivan (1999) contend that sports education also plays a part since it contributes a broader perspective to this kind of knowledge. This contradicts Kelly (2008) whose research about British managers shows that contemporary managers are dissatisfied with formal courses and qualifications. This is because their everyday practice as managers is based on the experience they acquired as players and the knowledge of the game that came with it. Given the game's broad scope, *sports knowledge* also includes knowledge about its business aspects (Rosca, 2014).

Tacit sports knowledge is also valued at an organisational level. Andersen (2009) attributes the success of the Norwegian elite sports development agency, Olympiatoppen (OLT), to a leadership team comprising individuals with joint tacit knowledge. Its leaders have educational and professional

backgrounds acquired largely outside sport, but they also have experience of sport from earlier careers as elite participants or coaches in a range of sports. The success of the leadership team can be explained therefore in terms of a shared cultural understanding which is based on tacit knowledge developed through sport. At the same time, their participation in a range of sports and their heterogeneous educational and professional backgrounds reduces the likelihood of oversimplification and generalisation from anecdotal experiences.

At both association and club level, knowledge creation depends on knowledge management. This includes the strategic management of both internal and external knowledge (Davenport and Prusak, 1998; De Long and Fahey, 2000; Griffiths et al., 1998; Liebowitz and Megbolugbe, 2003). Here, the capacity of the organisational culture for cultural adaptation is considered to be the most critical success factor (De Long and Fahey, 2000; Pillania, 2006). This is apparent in four aspects, namely

1. the definition of what is considered to be valid and important knowledge,
2. the extent to which there are social contexts for social interaction,
3. appreciation of the importance of knowledge creation, and
4. the organisational arrangements for identifying and embedding new knowledge (De Long and Fahey, 2000).

Sports Knowledge Management proposes a model with three dimensions for organising knowledge. These are *expert examination*, *statistical analysis* and *machine learning* (Schumaker, Solieman and Chen, 2010). The significance of a knowledge-oriented organisational culture is important in cases where individualism/collectivism, unequal power relationships and risk avoidance affect organisational development (De Long and Fahey, 2000; Pillania, 2006).

Knowledge creation deals with the interaction between tacit and explicit knowledge and aims to make individuals' tacit knowledge accessible for fellow practitioners (Erden et al., 2008; Gotvassli, 2007; Nonaka, 1994). Because knowledge creation largely concerns itself with *tacit* knowledge, the individual members of an organisation constitute the force which drives the process of knowledge creation. But individuals have another important role to play since *engagement*, a fundamental and stimulating factor in knowledge creation, is one of the most important elements in the adoption of new knowledge (Polanyi, 1967).

Against this background, Nonaka (1994) has brought together the epistemological and ontological dimensions of knowledge creation and created a model for the component processes which he calls the SECI-model (Nonaka et al., 2000). The model used in this article is based on Nonaka et al. (2000) four phases of knowledge creation and further adapted to the context of football (see fig. 1). The identification of the four phases, each seen in terms of the interaction between tacit and explicit knowledge are as follows:

1. from tacit to explicit knowledge (socialisation),
2. between two sources of explicit knowledge (combination),
3. from explicit to tacit knowledge (internalisation), and
4. from tacit to explicit knowledge and again to tacit (externalisation).

For effective knowledge creation, the situation within the organisation must be such that there is a continuous flow between the first three (socialisation, combination, internalisation) so that knowledge contributes to the creation of business-, service- and leadership practices (externalisation) (Gottvassli, 2007; Nonaka, 1994; Nonaka et al., 2000).

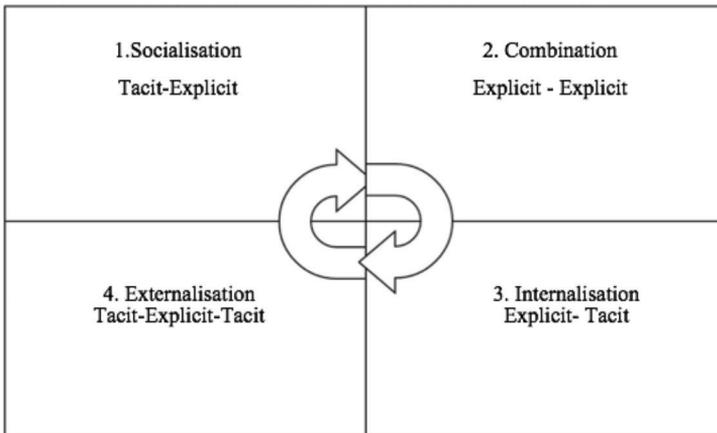


Fig 1. *The model based upon Nonaka et al. (2000) SECI Model.*

The worlds of football and sport depend to a large degree on collective tacit knowledge acquired through physical activity. As a result, knowledge obtained from physical experience is the most important source of the spoken and emotional expressions used by trainers, managers and participants. This can be challenging since, while these expressions are very vague and imprecise in their origin, they are understood as having precise meanings. If they

are to be understood, there has to be a shared body of experience and shared powers of verbal and written expression (Gotvassli, 2007).

Knowledge sharing has shown itself to be decisive for OLT, whose success is based on collaboration and knowledge sharing in a context in which learning across sports is central (Andersen, 2009). In such a context, experience from one sport can be used in other parts of the system and applied innovatively in specific areas. This is illustrated, for example, by the use of experience from gymnastics in the prevention of injuries to javelin throwers (Andersen, 2009).

Methodology

The amount of earlier research into knowledge creation in football or sport in general is limited (Girginov, Toohey and Willem, 2015). For this study, therefore, we have chosen an exploratory design using a semi-structured interview format with open questions. In view of the study's underlying theme, it was necessary to get access to employees at the NFF administration and in clubs. At the same time, it was important to talk to sources from the various levels of the game, in men's and women's football and in elite and community football, as well as those in individual and team coaching.

The first stage of the recruitment phase involved identification of the roles which are found in player development at both association and club level. Roles which corresponded to those levels were chosen, resulting in 14 interviewees. Five of them worked at the association level, two as coaches and the other three as administrators. Of these three, two were from elite football and one from grassroots football. The remaining nine interviewees came from two clubs which are considered to be elite clubs by Norwegian standards in both men's and women's football. Five interviewees were recruited from Elite Club 1, four of them coaches and the other an administrator. The coaches were divided into three groups, one from the women's team, two from the male youth team and one from the first and reserve teams. The administrator was involved in grassroots football. Four interviewees were recruited from Elite Club 2, occupying similar roles to those in Elite Club 1, but in this case there was only one from male youth football.

Thirteen of the fourteen interviewees were employed full time, the exception being the coach for the women's team in Elite Club 1. The gender division of these fourteen is thirteen men and one woman. Given how few full-time posts there are in Norwegian football today (Norges Fotballforbund,

2015a), getting access to thirteen interviewees who were full-time employees enabled us to meet the requirement for knowledgeable interviewees. The likelihood of achieving insight into the theme of the study was thereby increased.

The interviews were almost all conducted at the subjects' places of work. One was carried out over the telephone and the other on the training field. The interviews lasted from 31 to 72 minutes.

One of the most common challenges in qualitative research is confidentiality. The researcher is obliged to protect the identity and location of the interviewee (Ryen, 2012) and consequently has a legal duty of confidentiality towards the interviewees (Aase and Fossåskaret, 2014). The interviewees must be protected by means of anonymisation since their participation and what they say can cause them damage in their everyday lives. As a result, research in a well-known subject area can be problematic. In the case of this study, the risk is not considered to be especially great since the world of football is large and comprises individuals who share similar experiences.

The only person with sufficient information to undertake general application of the conclusions of this study is therefore the researcher. The conclusions are considered to be generalisable to only a limited extent, and those conclusions which are presented and explained are considered to be relevant only to the organisations which participated in the study.

The creation of knowledge in Norwegian football

In order to create a complete overview, the results for NFF, Elite Club 1 and Elite Club 2 are summarised in terms of tacit knowledge, knowledge management and knowledge creation. This is the starting point for comparison between association and club level and throws light on how important it is that knowledge exchange between the two levels is as extensive as possible. No distinction is made in this study between male and female interviewees or between male and female teams, nor is there a discussion of whether there is any gender specificity in knowledge creation.

There is evidently a good deal of tacit knowledge at association level: all the interviewees could point to careers as footballers at various levels. The association's employees have experience as coaches and managers in the sport on the basis of which all have been able to develop their own experience and tacit knowledge. The same pattern can be found in Elite Club

1 and Elite Club 2 where each of the interviewees can demonstrate a varied career in sport. To that extent all the interviewees in the association and the clubs possess what Lubit (2001) describes as embodied, physical, tacit knowledge.

This physical knowledge, when combined with knowledge derived from education and work, gives a wider perspective (Andersen, 2009; Feltz et al., 1999). The interviewees in both NFF and Elite Club 1 possess a high level of formal education, mostly within sport. This is in strong contrast to Elite Club 2 in which only one person has been through higher education. However, this was in business-related subjects and contributes to the higher quality of the collective tacit knowledge of Elite Club 2, going beyond the perspective derived from sport alone.

Knowledge management

The first aspect of knowledge management deals with what the organisation regards as valid and significant knowledge (De Long and Fahey, 2000). There is general agreement in NFF that the concept of player development is complex and ambiguous, but that individual planning for development of the whole person is crucial. This kind of planning embraces both that which is related to football, i.e. knowledge about playing (Rosca, 2014), and the development which takes place away from the pitch. However, there is a mutual understanding that these areas of development cannot be considered as two separate fields since not everything that happens on the pitch is related to football. At the same time one can use knowledge gained outside of football on the pitch. Nevertheless, there is no complete consensus about the concept, as is very well demonstrated by previous recruitment and selection practices in the national team and leading clubs.

There is a disagreement about the current model and whether it is fit for selecting the right players at the right time. NFF is split between those who believe that today's practices are fit for that purpose, and those who take the contrary view, that those practices are leading to further decline and that a player with a choice of developmental paths never gets the chance to be as good as he or she wishes. There is also disagreement in NFF about the place of selection in the doctrine of player development and its relative impact for different age groups. Research shows that this is very significant in age-limited national teams, but that the effect weakens as players get older (Sæther, 2014). Despite this empirical evidence, it remains a subject of disagreement,

which demonstrates the power of tacit knowledge. The same tendency towards disagreement is found at Elite Club 1 and Elite Club 2.

The NFF promotes a formal social context for knowledge sharing. Every coach involved with the national teams are required to meet in a monthly forum. There is also an arrangement for coaching and mentoring which gives coaches the opportunity to observe other coaches at work. There are similar social contexts at club level too, in the form of coaching forums and other kinds of meeting in which player management and development is discussed. These are characterised, however, by internal distinctions based, for example, on professionalism, age or whether a coach works with men or women so that these social contexts only serve the interests of specific subgroups. Their existence is nevertheless evidence of a commitment to and understanding of experiential development and knowledge creation.

There is also a digital formal context, based on a digital database of players. All the national team coaches and player development experts can record information about players and give scores for each performance on the database. A database has been set up for the professional group in Elite Club 1 in which each player has an entry about his or her performances, development, etc. Diaries of development objectives are kept in one of the groups in Elite Club 2.

The acquisition and embedding of external knowledge is demonstrated in international contacts at both levels. The NFF has two types of international contact. The first involves working with other associations and largely take place through the UEFA study group, collaboration agreements with the other Nordic countries and NFF's own study visits to other countries. The other type of contact takes place when the national coaches go to foreign clubs to watch Norwegians playing in other countries. These two types of contact are crucial for knowledge acquisition, and are the starting point for further internal development (De Long & Fahey, 2000). Elite Club 1 has similar international contacts in which the database mentioned above is deployed after study tours to countries such as Iceland, the Netherlands and Belgium. All the coaches in the group have access to the database, ensuring a high level of participation.

Elite Club 2 has no international contacts. It can nevertheless acquire new knowledge by using YouTube to search for new practice drills. These drills are later adapted to the club's own style of playing. In a second group, which works in children's football, new knowledge is acquired by systematising routine training. This innovation came with the appointment of a new head

of development who was given responsibility for setting up a new training routine on the basis of his experience at previous clubs.

Knowledge creation at association level

To what extent is productive knowledge creation possible in NFF, and what are its challenges? The whole process is predominantly based on individuals and their tacit knowledge (Nonaka, 1994; Polanyi, 1967). There is a lot of tacit knowledge about football in the association, and, since opinions differ about subjects such as early selection, it forms the basis for effective knowledge creation.

The existence of different opinions broadens the range of perspectives on knowledge creation, but they can also be a challenge for organisational culture. In the example of early selection, it is made explicit that “The national football academy intends to identify the most promising 13-16 year olds in each club and district and nationally” (Norges Fotballforbund, 2015b). As we have shown, early selection isn’t supported by everybody in the association. This suggests that the power to determine meanings in the association corresponds in large part to its hierarchy. In other words, the organisational culture is a top-heavy one in which large power imbalances deny groups lower down the hierarchy a context for, or the possibility of, participating in the collective determination of what concepts mean. This implies that the power of definition is not ascribed to the whole association. If there are those who do not have a genuine chance to participate in the development of a concept, it becomes less likely that they will use the concept in the way it is intended in the organisational culture. Different groups will then tend to base their practice on their tacit, entrenched convictions. The result can be the inconsistent use of concepts by different groups (De Long and Fahey, 2000).

Despite the challenges associated with the power to define, culturally the association is nevertheless equipped for knowledge creation. The national team forum and the mentoring arrangements provide formal and informal social contexts for both verbal and non-verbal interaction. The national team forum is the formal context for expert examination while the mentoring arrangements provide an informal, transfigurative form of interaction (Kvale et al., 1999).

With their social contexts and an adequate basis of shared experience, both the association and the clubs are in a position to participate in the *com-*

bination and internalisation processes. This is only manifest in the association's close collaboration with international contacts, and exemplified in the sharing of explicit knowledge about player development by representatives of the Belgian association. In combination with the association's experience, this knowledge is used in a process of trial and error. Belgium contributes the learning while the association is responsible for developing it (combination) and using it in its own practice (internalisation). Knowledge generated by the Belgian association has been combined, internalised and externalised accordingly and is now a part of NFF's strategic plan. Another example of similar collaboration is the introduction of three- and nine-a-side football.

As these examples show, new practices are not identified on the basis of knowledge creation which is exclusively internal. This is largely due to the demands of the internalisation process and its requirement for written records. At association level, this is shown in the working practices of the national team forum and performance reports. There are no written records in relation to the first except when notes are made about individual performances, but these are rarely if ever taken into account later. An account of the consequences of this lack of use of the written word is given in the section 'From talk to text' below.

Knowledge creation at club level

As at association level, the clubs have a lot of tacit knowledge about sport and football, and consequently their interpretations of the concept of player development are inconsistent. At the same time, both clubs provide formal and informal contexts for verbal and non-verbal interaction in the shape of coaches' forums and mutual observation. There is thus an adequate basis of shared experience and social contexts for knowledge creation.

The group of professionals in Elite Club 1 has a similar approach to that of NFF in its work on knowledge creation. This is rooted in the decision to look overseas and use practices from the international milieu as the starting point for innovating and is illustrated by the club's database of player accreditations. The group acquired explicit knowledge about this computer-based system from a foreign club, adapted the knowledge for its own use (combination) and deployed it experimentally in its own practice (internalisation). Like NFF, Elite Club 1 cannot demonstrate newly adopted prac-

tices derived from internal knowledge creation. The club also shares NFF's weakness in relation to written records.

By contrast, Elite Club 2 works with written records in the form of training diaries. In this case, the training ground provides a location for the processes of socialisation and combination in which tacit knowledge is shared and conceptualised by players and coaches. These concepts become development goals which are written down in training diaries with suggestions about how they can be achieved. After a while, the new concepts are externalised through a process of trial and error and become part of new practice in the form, for example, of more varied skills registers.

The different groups at club level are therefore in a position to create new knowledge through a process of effective knowledge creation. The challenge is to set up a complete process in which different groups come together to create new knowledge. This can contribute to better knowledge creation as the process can engage participants with a range of viewpoints. There will be less likelihood of inconsistent practice as individuals engage on the basis of newly developed shared knowledge rather than their tacit knowledge. Likelihood of overgeneralisation is reduced and the club will achieve greater consistency in its practice regardless of levels of professionalisation, age or gender.

Consequences of knowledge creation

At both association and club level, there are comprehensive processes for knowledge creation aimed at better and more consistent practice. The NFF sees capacity building for its backroom staff as one of the most important ways to improve today's player development (Norges Fotballforbund, 2016a). Interviewees from the association said that it is an explicit goal to create qualified coaches through a framework of courses with accompanying pathways and recommended activities and exercises. NFF's coaching courses are a part of a structure above the individual level. In this enabling environment, the coaches decide whether or not they will take the different courses. However, the initiative is limited since only those who have coached a team at a certain level can participate (Norges Fotballforbund, 2016b). It also appeared from interviews with those who have the level C certificate ('grassroots') that their clubs are asking for more courses, which shows that completion of such courses is considered to be good practice. This is despite a common opinion, irrespective of which courses are taken,

that today's courses do not contribute to day-to-day coaching and that they serve to certificate competence rather than to develop it.

That NFF's coaching courses have such a high level of participation despite this resistance to the course content supports the notion of a culture, and hence a structure, with strong norms and rules for what constitutes appropriate behaviour. That the return in terms of knowledge are low is also apparent as regards club coaches' beliefs about the basis of their own authority. In line with Kelly (2008), there is strong agreement that tacit knowledge acquired during their time as players and coaches is the basis of their practice. Club coaches attach low weight to NFF's courses and see them as insufficiently based at grass roots level where knowledge transfer from course to training is at a low level. The necessary writing down of the revised concepts which are created through socialisation and combination is inadequate. This brings with it an increased risk that the knowledge which is delivered and externalised depends on individuals. The explicit knowledge which emerges is therefore liable to be oversimplified and generalised in line with the experience of the individual coach (Andersen, 2009).

What significance does this have for the development of players and coaches in Norway? First, it can be argued that there is a fracture between the association and the clubs as regards the power of definition. This arises when the association makes new recommendations and announces principles for good player development without taking club trainers into account. Negative attitude and consequent poor learning outcomes arise from the association's deficient written communication. Conversely, 'new guidelines' are proposed in which the coaches on the committee all draw on their experience as players, managers or coaches in Norwegian football. By becoming a part of the establishment of Norwegian football they are subject to socialisation in relation to the cultural norms and values which were dominant when they were new actors in the structure. Since they rely on their own tacit knowledge, there is a time delay such that the association's new principles play no part in current practice.

There is disagreement between NFF and club coaches on what constitutes good player development. The resulting inconsistent practice gives support to the idea that the power of definition is fractured and lacks alignment to hierarchical relationships. The result of this power struggle is nevertheless clear: active practitioners have the power to lead change (De Long and Fahy, 2000). With their know-how and authoritative resources, club coaches are in a position to influence what happens on the training ground and consequently the outcome of player development in Norway. Yet, despite this

power, they are denied the opportunity to influence course content and so to influence the system. Given a deficient social context and club coaches' unwillingness to implement the association's recommendations, the association's objective of improving player development through better theoretical schooling in the form of courses for coaches is irrational. With a deficient social context, the objective cannot logically be realised by any direct approach (Elster, 1989).

NFF's structure of courses for coaches, which emphasises specialisation and theoretical schooling, is one based on a strong logic about appropriate behaviours. This practical logic means that coaches are schooled in accordance with principles which are developed by NFF. But based on their own judgement, which is derived from their intrinsic knowledge, the participants have little regard for those principles since they are not experienced as relevant to the training ground. At the same time, the participants are denied a social context in which they can influence the training courses and take part in developing them. In the attempt to improve player development through better training courses, NFF has made what Coleman (1990) describes as a collective action failure which leads to the propagation of intended and unintended negative consequences. These consequences will guarantee that the association's newly developed principles cannot become part of day to day training as intended. As a result, outdated forms of player development are reproduced, based on tacit knowledge.

From talk to text

There is enough tacit knowledge and organisational culture at both association and club level for effective knowledge creation. There are examples of new practices which have been implemented after a complete process of knowledge creation. In practice, though, these occur only when there has been external collaboration, and do not arise from internal knowledge creation. This is despite the existence of an organisational culture which provides a context for knowledge creation and enables sharing and reconfiguring experience in the socialisation and combination phases. As pointed out already, deficient internal knowledge creation is a consequence of the internalisation process and the lack of writing things down.

There are deficient routines for making written records at both association and club level. This can be demonstrated under two headings – practice notes in relation to position and role, and knowledge creation. The first re-

fers to notes, reports, etc. in which the individual tentatively shares his or her tacit knowledge and experiences as a coach in order to help someone who may be moving to a new position or facing some other challenge. The extent to which this happens in practice turns out to be coach-led, the individual coach deciding the extent to which he or she writes anything down. A commonly used alternative is a handover based on an oral briefing.

Both written and oral briefings encounter a challenge as regards passing on knowledge. The knowledge which is easy to write down and share is explicit knowledge which, as in an oral briefing, risks being reduced to previously existing knowledge. In that case, practice notes are not perceived by the reader as developmental, at which point the experience and importance of the written word is diminished. Nevertheless, such practice notes can help the organisation and those of its members who are changing roles etc so that previous practices can be taken into account. In both kinds of briefing, it is also of course possible to argue that individuals can contribute new explicit knowledge since explicit knowledge is also dependent on individuals' experiences.

On the other hand, if these written accounts of experience address the challenges met in writing down tacit knowledge, they are likely to fall victim to oversimplification and generalisation. This is because they are based on the experience of a single individual. This is the source of deficiency in the written records of the forum for coaches and other formal social contexts for knowledge creation. In the forum, a theme or an issue is put forward for discussion and the presentation is shared digitally afterwards. This is problematic in that no written record is made after the knowledge input has been discussed and amended. This means that the knowledge which is made accessible, supposedly the product of the experience of everyone in the group, is in fact derived only from the individual who makes the presentation.

This deficiency in making written records means that the knowledge which is the subject of internalisation derives not from the community of practitioners but from individuals. This increases the likelihood of perpetuating pre-existing knowledge, if it is taken into account at all.

This study confirms the idea advanced in the introduction that football in Norway is based on tacit knowledge and that NFF's recommendations and courses are insufficiently grounded in day to day coaching. As a result, the association is unable to advance skills development amongst club coaches, its most important development staff. NFF's objective of developing structural collaboration with elite clubs and circles should be taken forward

through social contexts in which the club trainer can participate in the development of future coaching courses.

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