Classroom life and the importance of context in physical education: From ecological approaches to situationist theories

Olivier Vors, David Kirk

HAL Id: hal-01649558

https://hal.science/hal-01649558

Submitted on 13 Jan 2018

Classroom life and the importance of context in physical education:

From ecological approaches to situationist theories

Olivier, Vors

Lecturer ISM UMR 7287 CNRS ESPE Université Aix Marseille

David, Kirk

Professor of Education, University of Strathclyde

Honorary Professor of Human Movement Studies, University of Queensland

Abstracts

The complex character of classroom motion can be captured by its immediacy, multidimensionality, unpredictability, history and simultaneity (Doyle, 1980). Classroom life is complex. In educational research, this complexity cannot be captured without close attention to the context in which life in classrooms takes place. This theoretical article shows different ways to analyse this complexity through various ecological approaches, qualitative research frameworks, and situationist theories from the latest international developments. The starting point for these researches is the relationship individual / context, where theory emerges from contextualized practice and practices are informed by theory in a back and forth process of self-construction and constitution. Those studies could provide a basis for a new theory of practice.
<u>*Keywords*</u>*: ecological approaches, qualitative research, situationist, context, classroom, physical education.*

<u>*Résumé*</u> *: La complexité dynamique de la classe peut être saisie dans son immédiateté, sa multidimensionalité, son imprévisibilité, son histoire et sa simultanéité (Doyle, 1980). La vie de la classe est complexe. Dans les recherches en éducation, cette complexité ne peut pas être appréhendée sans prêter une forte attention au contexte dans lequel la vie de la classe se déroule. Cet article théorique montre différentes façons d'analyser cette complexité au travers diverses approches écologiques, recherches qualitatives, et théories situationnistes, en s'appuyant sur les dernières avancées internationales. Le point de départ de ces recherches est la relation étroite individu / contexte. La théorie se construit dans des allers-retours avec la pratique contextualisée. Ces études pourraient constituer les bases d'une nouvelle théorie de la pratique.*
<u>*Mots-clés*</u> *: approches écologique, recherche qualitative, situationnisme, contexte, class, éducation physique.*

Ecological approaches

In this section, we present different theoretical frameworks specific to ecological approaches to educational research. Ecology (from Greek oikos: "house" or "environment"; logos: "study of") is the scientific analysis and study of interactions among organisms and their environment. It is an interdisciplinary field that includes various sciences which have evolved over many years. Initially in this paper, ecology is considered in the context of an environmental ecological focus on nature conservation. Then, we consider other forms of ecology based on a close relation between humans and their context.

Body ecology studies internal relations between body and nature (Andrieu, 2009 ; Andrieu & Sirost, 2014). This form of ecology is the exploration and learning of the internal environment of the body, to the rediscovery of an internalized nature; it is a premotor ecology, emersiology (Andrieu, 2015), neurophenomenology. *Body ecology* is closely linked with *cosmic ecology,* focusing on the return to nature of the social and the environment to improve the quality of life, and with *sensory ecology* that offers a space for exchanging sensations between man and environment (Andrieu & Sirost, 2014). These approaches focusing specifically on the relationships between individual /context become body / nature. The individual is considered from the perspective of embodiment. The context corresponds to a consideration of nature. In this context the view is quite similar to that of *environmental ecology*. These ecological approaches are found in the field of physical activity, where *body ecology* corresponds to practices such as yoga, tai chi, meditation and trance with a bodily experience leading to enlightenment and the emergence of consciousness. In addition, *cosmic ecology* corresponds to practice in natural environments and the outdoors bringing a bodily experience of the order of cosmic consciousness. Finally, *sensory ecology* matches naturist practices causing a bodily experience of the order of asceticism, purification and the search for authenticity.

Social ecology is another ecological approach more focused on interactions between individuals (e.g., Fischer-Kowalski, 2015; Müller, 2015). *Social ecology* is an interdisciplinary research field rooted in both social science and natural science traditions. The core axioms in this paradigm are that human social and natural systems interact, coevolve over time, with causality pointing in both directions and thus to the co-construction of reality. *Social ecology* deals with energy and society, land use and food production, the metabolism of societies, and the environmental impacts of human activities. It offers a conceptual approach to society–nature coevolution that integrates historical and current development processes and future sustainability transitions (Fischer-Kowalski, 2015). The relationship individual / context is always at the center of reflection, but here it is the social and cultural aspect of the environment that is studied. This social ecological approach is found in the field of education as a 'social ecology of education' and in the field of physical practices (T. D. Brown, Bennett, Ward, & Payne, 2008). For example, some researchers are interested in the 'social ecology of movement' through lived experience in the community (Payne et al., 2008).

Cognitive ecology studies the cognitive traits that evolve in particular natural settings. *Cognitive ecology* integrates theory and observations from evolutionary ecology and neurobiology, primarily cognitive science, in order to understand the effect that animal interaction with their habitat has on their cognitive systems and how those systems restrict behavior within an ecological and evolutionary framework (Dukas, 1998). In this line, study involving the 'coupling' between organism and environment, cognitive ecology is closely related to enactivism, a field based upon the view that "we must see the organism and environment as bound together in reciprocal specification and selection" (Varela, Rosch, & Thompson, 1992, p. 174). The relationship individual / context is expressed here as a structural coupling between action and the situation. This *cognitive ecology* approach is found in many areas such as in the field of cognitive ergonomics (Theureau, 2015) and in physical education and sport (Saury et al., 2013). This enactive approach of cognition leads researchers to analyze the context of action and to focus on the meanings accompanying action.

Ecological psychology gives a central place to the environment in continuity with the other ecological approaches (R. G. Barker, 1968; Gibson, 1950, 1979). Ecological psychologists argued that human behaviour was radically situated: in other words, you couldn't make predictions about human behaviour unless you know what situation or context or environment the human in question was in (R. G. Barker, 1968). James J. Gibson (1950, 1979), too, stressed the importance of the environment, in particular, the (direct) perception of how the environment of an organism affords various actions to the organism. Thus, an appropriate analysis of the environment was crucial for an explanation of

perceptually guided behaviour. He argued that animals and humans stand in a 'systems' or 'ecological' relation to the environment, such that to adequately explain some behaviour it is necessary to study the environment in which the behaviour takes place and, especially, the information that 'epistemically connects' the organism to the environment. This ecological approach to perception and action opens many fields of investigation in the area of sports (for a review, Bardy, 2014) and in physical education (Cornus & Marsault, 2014). For example, results of this research show the nature of perception during sport practice (such as somersault, long jump, running towards the ball in table tennis, ...) to identify perceptual invariants. Moreover, some of this research invites the development of the learning environment to guide perception and therefore the action of learners; or it invites teachers and coaches to expose learners to a wide variability of situations to teach them how to explore their environment.

These different ecological approaches are linked by their transdisciplinarity and their focus on the interdependent relationships between organism and its environment. In the field of education and sport sciences or physical education, the organism is the individual action. In addition, the environment, initially linked with nature in *environmental ecology*, has evolved over a consideration of different kinds of contexts. This evolution opens the notion of the context as being coupled with the action of any individual.

The difference between these ecological approaches lies in their focus on the individual (her/his corporeality, culture, cognition, perception, ...) and their context. Taking account of the context can take different forms that may even extend to different areas around the individual. For example, in public health, ecological models incorporate a wide range of influences at multiple levels affecting behavior: "Levels of variables often included in ecological models of physical activity include intrapersonal (biological, psychological), interpersonal/cultural, organizational, physical environment (built, natural), and policy (laws, rules, regulations, codes)" (Sallis et al., 2006, p. 299).

In physical education pedagogy, ecological approaches are multiple. The pioneer in this work is Walter Doyle (1977a, 1977b) through his classroom ecology paradigm. This paradigm studies life in classrooms as it naturally unfolds. It was inspired by Barker's ecological psychology (Doyle, 2006) and by the findings of Kounin (1970) who presented a theory of classroom systems operations. In physical education, these works have been used in order to describe and respond to the question, *what's going on in the gym?* (Hastie & Siedentop, 2006). The central tenet of the classroom ecology paradigm is the idea of tasks and task systems. Doyle identified two task systems that typically operate within physical education, the managerial (maintaining order) and instructional (promoting learning). The managerial system provides rules, routines, and expectations for students to follow to allow learning to take place. The instructional system involves the presentation and practice of subject matter. A third task system emerged later in an attempt to explain student social interactions. This social task system was first emphasized by Allen (1986), who described the social system as having two major goals, of socializing and of passing the course. These three task systems are interrelated. The change of one of the constraints of a system has implications for the development of others. Thus, the class is understood as a living ecosystem, that is to say, as a system formed by all individuals (teachers and students) and the environment (physical, material and cultural resources). These principle works inspired a lot of research both in education (Hastie, in this journal; Hastie & Siedentop, 2006, for a review), and in other scientific fields (e.g., Vors & Gal-Petitfaux, 2015).

In addition, other models claim an ecological approach in physical education classrooms. This is for example the case of with the process-product paradigm that evolves towards an ecological paradigm (Carreiro da Costa, 2008) (see Figure 1).

« Insérer ici la Figure 1 »

Figure 1. Evolution of the process of analysis (Carreiro da Costa, 2008).

This ecological approach has gradually built a growing awareness of contextual elements to reflect the teaching-learning process in physical education (Cloes & Roy, 2010).

"Integrating the teaching-learning process in a dynamic system directly related to the environment in which a group evolved, the researchers gradually became interested in the study of relationships between the demands of the environment, i.e. the class situations, and how people respond. This approach allows researchers to enter more fully into the world of actors and understand the meanings

that they were able to develop." (Cloes & Roy, 2010, p. 27, in the section entitled "ecological paradigm")

Therefore, according to this ecological approach, besides interactions that take place in the immediate context of practice (school and class, the club and the team, the fitness center and aerobics, etc.) the researchers also reflect the influences that come from other contexts such as the family, the community environment, cultural background and socio-economic (micro, meso, exo and macro-systems).

The term ecological approach is used in physical education when researchers analyze the context in situ coupled with actions in the class. Differentiation within this approach depends on the focus put on the context as: knowledge (Amade-Escot & Agbodjogbé, in this journal; Amade-Escot & Venturini, 2015; Terré, Saury & Sève, in this journal) , objects (Adé, in this journal), social interaction (D. Barker, Quennerstedt, & Annerstedt, 2015; Quennerstedt & Larsson, in this journal), social and cultural environment (Light & Wataru, in this journal), etc. Furthermore, the ecological approach is used for constructing ecologies in physical education classrooms, like cooperative learning (Dyson, Linehan, & Hastie, 2010), variable task (Cornus & Marsault, 2014), video training (Gal-Petitfaux & Roche, in this journal), etc.

Therefore, we have seen that ecological approach consists of cross-disciplinary theories focused on a coupling between the individual and his environment. This central tenet of codetermination between action and its context orients researchers to consider the ecological situation of the class, i.e. in situ, in the same context of unfolding action.

Contextualised frameworks

We noted in the previous section that the word ecology is often used to refer to the totality or pattern of relations between organisms and their environment. The word 'context' is used in a similar fashion to conceptualise the interrelated conditions in which something exists or occurs. While each word expresses different points of emphasis, the similarity lies in their inclusion of the notion of 'relations' between phenomena, in other words, interrelated factors, forces and conditions that construct and constitute everyday life.

There is a long tradition of interest in the interrelatedness of social phenomena in the social sciences. In terms of their influence on English language social sciences and ultimately in educational and physical educational research, we might date this interest from the work of GH Mead in the 1930s that subsequently and through the work of followers such as Herbert Blumer generated the notion of symbolic interaction (Blumer, 1969). This concept was just one of many that rested on a notion that underpinned a broad pragmatic philosophy, that human beings are involved in a process of purposive self-construction in interaction with other human beings and the world around them (Thayer, 1970). While critical of aspects of Mead's approach that were influenced by behaviourism, Alfred Schutz's (1962) social phenomenological approach to how individuals understand their own and other's consciousness had important parallels with the development of symbolic interactionism and was highly influential in the subsequent development of the Ethnomethodology of Harold Garfinkel (1967) and also on the social constructionist thesis of Peter Berger and Thomas Luckmann (1967).

This tradition concerned with the interrelatedness of social phenomena, despite its different emphases and influences, has contributed over time to the development and widespread use of research methods that are underpinned by a concern for the complex ways in which human beings are both collective producers of their world and are also produced by it (in Giddens' (1984) famous formulation, 'the duality of structure'). The notion of 'context' provides a shorthand way of conceptualising this paradigm in educational research, but we caution that its careless use can also overlook important nuances and differences of approach.

In addition to the research projects that have been influenced primarily by the notion of ecology, such as the classroom ecology paradigm discussed earlier, a number of approaches to research in physical education can be gathered under the notion of context.

What is context in educational research? Writing in 1985, White argued that context was comprised of at least three elements of an educational setting, the physical conditions, the people involved, and the social conditions. As we already noted, these elements interact. Locke (1974), in one of the earliest studies of the context of physical education lessons, noted that it is the interaction and interdependency of these elements of context that creates the complexity of life 'in the gym'. Illustrating the benefits of close attention to context, Locke's (1974) paper, on 'The ecology of the gym: what the tourist never sees', sought to make problematic all three elements. He wrote

> "Like any social phenomenon complex enough to be interesting, teaching physical education is full of subtle paradoxes and misleading surface events. Only slow, patient study of daily routine yields a sense of who really does what to whom within the gym. Handing out locks, writing ball passes, putting away equipment, standing bus duty, filling out grade cards, attending PTA meetings, marching out for fire drills, dealing with forgotten sneakers and locating lost basketballs, are just as much the reality of a teacher's daily experience as the act of instruction which appears so central to the visiting tourist. Visitors see the surface landmarks which tourists see, and learn the obvious surface facts which tourists learn (and are about as well regarded by local inhabitants as tourists gawking at life in any native village)." (Locke, 1974, pp- 5-6)

This early ground breaking work by Locke inspired and informed subsequent research on the day-to-day realities of school physical education. Several chapters in a collection edited in the USA by Templin and Olson (1983) included research that Pope (2006) in his review described as qualitative, ethnographic and interpretivist. In the UK, John Evans edited one of the first book length collections of studies published in 1986. This book included studies of femininity and girls, teachers managing to survive, pupils labelling as troublemakers, curriculum innovation, and equal opportunities. These studies used terms such as case study, ethnography, social phenomenology, qualitative research, and interpretive research to describe their paradigm. Despite these different terms, rich description of *la vie quotidienne* and location in the local context or *milieu* was a shared feature of these research papers.

As it began to be taken up by increasing numbers of researchers, one of the criticisms of this 'qualitative turn' in physical education research was that in providing detailed accounts of the context in which teachers' and students' meaningful activities occurred, the influence of the wider social context was sacrificed (Kirk, 1998). In White's (1985) terms, the more obvious physical conditions and the people involved were highlighted and the sometimes less obvious social conditions, particularly the macro-social factors such as social class and culture, became opaque or submerged. One response to this criticism emerged from the development of research projects drawing on a broad movement we can describe as " situationist ".

Situationist theories

Situationist theories are at the crossroads of sociology of action, anthropology, science of cognition and science of language. They are identifiable under different names such as "situated action" (Suchman, 1988, 2007), "situated cognition" (J. S. Brown, Collins, & Duguid, 1989), and "situated learning" as legitimate peripheral participation in communities of practice (Lave & Wenger, 1991). Beyond the diversity of the studies, all situationist researchers analyze human activity as a practical accomplishment, singular, situated spatially and temporally, socially and culturally.

Situated action and cognition attribute a prominent place to context. The cognitive activity mobilized in and by this action has a contextual specificity: it is incomprehensible out of context and should be studied "in situation". The interaction subject / context is the starting point for any analysis. Every action, every thought, is an achievement in context, emerging from the relation of the subject with this context.

> "That term (situated action) underscores the view that every course of action depends in essential ways upon its material and social circumstances. Rather than attempting to abstract action away from its circumstances and represent it as a rational plan, the approach is to study how people use their circumstances to achieve intelligent action." (Suchman, 1987, p. 50).

Therefore, all action falls under a circular causality: when a player performs an action, it changes the context which, in turn, modifies the conditions of its future course of action. Originally, the concept of "situated action" was not related to cognition. The expression "situated action" joined

"situated cognition" to emphasize the idea that it is actually the actor as cognitive agent who is located. The action is a construction of meanings shared by a community. Cognition is socially and culturally situated: to act is to construct meanings in a cultural context and in relation to other individuals.

Situated action was introduced in France by the work of Marc Durand to be applied to the study of physical education situations and sports training (for a review, Durand, 2001; Gal-Petitfaux, 2004; Gal-Petitfaux, Sève, Cizeron, & Adé, 2010; Saury et al., 2013). It then influenced an existing theory called 'situated cognitive anthropology', in Theureau's terms, the 'course of action' (Theureau, 2015). According to this theory, the actor determines, by her/his activity, the elements of the environment with which it interacts and builds every moment their own situation. The class situation for a teacher or a student, for example, corresponds to a perpetual interpretation of what s/he sees, at every moment of her/his activity. Various studies were used to examine with precision the lived context and to analyse the influence of the wider social context through culturally embedded educational formats such as workshops in fitness, or gymnastics (Adé, Picard, & Saury, 2013; Cizeron & Gal-Petitfaux, 2006; Vors & Gal-Petitfaux, 2011; Vors, Gal-Petitfaux, & Potdevin, 2015), or else in the confrontation of two communities in hand ball, or progressive establishment of a community through the development of a dance show (Crance, Trohel, & Saury, 2013, 2014).

Situated learning is also a theory which provides an example of how researchers have responded to criticisms of the ways in which notions of context have been operationalised within the qualitative turn. Lave and Wenger (1991) suggested that legitimate peripheral participation needs to be understood as a whole concept rather than in terms of its parts, though some consideration of each part in relation to the others can assist our understanding of the whole concept. Their notion of *legitimate* peripheral participation is intended to convey the sense of authentic or genuine participation, where a person's involvement in the practices of a community are meaningful to them as individuals and also hold significance for other community members. Lave and Wenger's stress on *legitimate* peripheral participation suggests belonging to a community of practice. A key part of this notion, then, is a person's identity in relation to other members of a community. They suggest that underlying this notion of legitimate peripherality are relations of power, in terms of how individuals are positioned and the kinds of access they are able to gain to the resources of particular communities of practice.

Lave and Wenger go to some lengths to suggest that legitimate *peripheral* participation is not meant to imply the core or centre of a community of practice but rather to suggest that all participation occurs within sets of relationships in which people begin as 'new-comers' or novitiates and that they may move towards *full* participation involving particular experience and expertise and new sets of relationships; in their words, 'peripheral participation is about being located in the social world, *changing* locations and perspectives are part of actors' learning trajectories, developing identities, and forms of membership' (Lave and Wenger, 1991, original emphasis, p. 36). Their notion of legitimate peripheral *participation* signals a concern shared by other constructivist theories of learning for active involvement by persons in the construction of knowledge through meaningful social activity.
Lave and Wenger's notion of 'community of practice' is, they acknowledge, relatively underdeveloped in comparison to other aspects of their theory. It is here, however, that they make a crucially important contribution to our understanding of the importance of context for educational research.

> "A community of practice is an intrinsic condition for the existence of knowledge, not least because it provides the interpretive support necessary for making sense of its heritage. Thus, participation in the cultural practice in which any knowledge exists is an epistemological principle of learning. The social structure of this practice, its power relations, and its conditions for legitimacy define possibilities for learning." (Lave and Wenger, 1991, p. 98)

This statement effectively grounds knowledge production in social contexts. The concept of situated learning as legitimate peripheral participation in communities of practice very powerfully illustrated the interdependency and interaction of the various elements of the context, the fundamentally social nature of learning and, importantly, the operations of power in all human affairs.

This concept of situated learning was applied by Kirk et al. (2000) to learning to play basketball in a physical education class. They proposed that the 'situatedness' of the lessons had three dimensions (echoing White, 1985), a perceptual-physical dimension, a social-interactive dimension and a cultural-institutional dimension. Setting out their naturalistic observational data and data from conversational

interviews with students as three vignettes, they illustrated the ways in which the school setting in itself shaped the students' perceptions and meaningfulness of what they were doing and being asked to do. The students' failures to satisfactorily complete the tasks set by their teacher are understood by Kirk et al. (2000) to be embedded in the situation of their school physical education lessons, not just the physical environment and the people involved, but a range of cultural (eg. basketball as a media sport) and institutional (eg. school as a compulsory requirement) factors and forces.

Conclusion

These different approaches make it possible to overcome the gap between theory and practice, paying special attention to social practice and its context. These approaches raise questions about the place of context in the production of scientific knowledge and leads to a reconsideration methodologically and theoretically of the relationship between theoretical knowledge and practical knowledge on the ground. The starting point for these researches is the relationship individual / context, where theory emerges from contextualized practice and practices are informed by theory in a back and forth process of self-construction and constitution. Those studies from ecological approaches through contextual to situationist theories could provide a basis for a new theory of practice.

References

Adé, D., Picard, M., & Saury, J. (2013). Les ressources exploitées par les élèves pour agir dans un format pédagogique en atelier : Une étude empirique lors de leçons de musculation en Education Physique et Sportive. *eJRIEPS*, (30), 26–50.

Allen, J. D. (1986). Classroom Management: Students' Perspectives, Goals, and Strategies. *American Educational Research Journal*, *23*(3), 437–459.

Amade-Escot, C., & Venturini, P. (2015). Joint Action in Didactics and Classroom Ecology: Comparing Theories Using a Case Study in Physical Education. *Interchange: A Quarterly Review of Education*, *46*(4), 413–437.

Andrieu, B. (2009). *L'écologie corporelle,* 4 tomes. Biarritz: Ed Atlantica.

Andrieu, B. (2015). (en anglais et en japonais). From Phenomenology to Emersiology : The birth of living body in the philosophical research in France among 1990, "*Study on Arts and Principles of Body-Mind Transformation,*"

4. trad jap., Haruka Okui (Title in Japanese, "身心変容技法研究").

Andrieu, B., & Sirost, O. (2014). Introduction l'écologie corporelle. *Sociétés*, (125), 5–10.

Bardy, B. G. (2014). L'approche écologique de la perception et de l'action. In M. Quidu (Ed.), *Les sciences du sport en mouvement. Innovations théoriques en STAPS et implications pratiques en EPS*. Paris: L'Harmattan.

Barker, D., Quennerstedt, M., & Annerstedt, C. (2015). Learning through group work in physical education: A symbolic interactionist approach. *Sport, Education and Society*, *20*(5), 604–623. http://doi.org/10.1080/13573322.2014.962493

Barker, R. G. (1968). Ecological Psychology: Concepts and Methods for Studying the Environment of Human Behavior. Stranford: Stanford University Press.

Berger, P.L. and Luckmann, T. (1967). The Social Construction of Reality: A treatise in the sociology of knowledge. London: Penguin.

Blumer, H. (1969) *Symbolic Interactionism: Perspective and method.* Berkeley: University of California Press.

Brown, J. S., Collins, A., & Duguid, P. (1989). Situated cognition and the culture of learning. *Educational Researcher*, *18*(1), 32–42.

Brown, T. D., Bennett, R., Ward, L., & Payne, P. G. (2008). The context of movement and its social ecology. In *Australian Association of Research in Education annual conference*. Canberra, Australie.

Carreiro da Costa, F. (2008). Issues in research on teaching in physical education. In J. Seghers & H. Vangrunderbeek (Eds.), *Physical education research. What is the evidence ?* (pp. 11–25). Leuven: Acco.

Cizeron, M., & Gal-Petitfaux, N. (2006). Le travail en" vagues" et en" ateliers" : deux façons d'enseigner et d'apprendre au cours de leçons de gymnastique. In G. Carlier, D. Bouthier, & G. Bui-Xuân (Eds.), *Intervenir en Education physique et en sport* (pp. 344–351). Louvain la Neuve: Presses Universitaires de Louvain.

Cloes, M., & Roy, M. (2010). Le cheminement de l'approche écologique: du paradigme processus-produit au modèle heuristique du processus enseignement-apprentissage. In M. Musard, M. Loquet, & G. Carlier (Eds.), *Sciences de l'intervention en EPS et en sport: résultats de recherches et fondements théoriques* (pp. 13–33). Paris: Revue EP&S. Retrieved from http://orbi.ulg.ac.be/handle/2268/35774

Cornus, S., & Marsault, C. (2014). Enseigner l'EPS à partir de l'approche écologique: priorité à la variabilité. In M. Quidu (Ed.), *Les sciences du sport en mouvement. Innovations théoriques en STAPS et implications pratiques en EPS*. Paris: L'Harmattan.

Crance, M.-C., Trohel, J., & Saury, J. (2013). The experience of a highly skilled student during handball lessons in physical education: a relevant pointer to the gap between school and sports contexts of practice. *Physical Education and Sport Pedagogy*, *18*(1), 103–115. http://doi.org/10.1080/17408989.2012.666790

Crance, M.-C., Trohel, J., & Saury, J. (2014). Construction d'une œuvre chorégraphique en collège et émergence d'une « compagnie de danse scolaire ». *Staps*, (103), 69–85.

Doyle, W. (1977a). Learning the classroom environment: an ecological analysis. *Journal of Teacher Education*, *28*(6), 51–55.

Doyle, W. (1977b). Paradigms for research on teacher effectiveness. In L. S. Shulman (Ed.), *Review of research in education* (Vol. 5, pp. 163–198). Itasca, IL: F.E. Peacock.

Doyle, W. (1980). *Classroom Management*. Indiana: Kappa Delta Pi. Retrieved from http://www.eric.ed.gov/ERICWebPortal/contentdelivery/servlet/ERICServlet?accno=ED206567

Doyle, W. (2006). Ecological approaches to classroom management. In C. M. Evertson & C. S. Weinstein (Eds.), *Handbook of classroom management: Research, practice, and contemporary issues* (pp. 97–125). New York: Erlbaum.

Dukas, R. (1998). Cognitive Ecology: The Evolutionary Ecology of Information Processing and Decision Making. Chicago: University of Chicago Press.

Durand, M. (2001). Chronomètre et survêtement. Reflets de l'expérience quotidienne d'enseignants en éducation physique. Paris: Éditions Revue EPS.

Dyson, B., Linehan, N. R., & Hastie, P. (2010). The ecology of cooperative learning in elementary physical education classes. *Journal of Teaching in Physical Education*, *29*(2), 113–130.

Fischer-Kowalski, M. (2015). Social Ecology. In J. D. Wright (Ed.), *International Encyclopedia of the Social & Behavioral Sciences (Second Edition)* (pp. 254–262). Oxford: Elsevier.

Gal-Petitfaux, N. (2004). Apport de l'anthropologie cognitive: le processus de contextualisation de l'action d'enseignants d'Education physique. In J. F. Marcel & P. Rayou (Eds.), *Recherches contextualisées en éducation* (pp. 39–48). Paris: INRP.

Gal-Petitfaux, N., Sève, C., Cizeron, M., & Adé, D. (2010). Activité et expérience des acteurs en situation : les apports de l'anthropologie cognitive. In M. Musard, G. Carlier, & M. Loquet (Eds.), *Sciences de l'intervention en EPS et en sport* (pp. 67–85). Paris: Éditions Revue EP.S.

Garfinkel, H. (1967) *Studies in Ethnomethodology*. New Jersey: Prentice-Hall.

Gibson, J. J. (1950). *The perception of the visual world*. Boston: Houghton Mifflin.

Gibson, J. J. (1979). *The ecological approach to visual perception*. Boston: Houghton Mifflin.

Giddens, A. (1984) *The Constitution of Society*. Cambridge: Polity Press.

Hastie, P., & Siedentop, D. (2006). The classroom ecology paradigm. In D. Kirk, D. MacDonald, & M. O'Sullivan (Eds.), *Handbook of physical education* (pp. 214–225). London: SAGE.

Kirk, D. (1998) Educational Reform, Physical Culture and the Crisis of Legitimation in Physical Education. *Discourse: Studies in the Cultural Politics of Education* 19 (1), 101-112.

Kirk, D., Brooker, R. and Braiuka, S. (2000) Teaching Games for Understanding: A Situated Perspective on Student Learning. Paper presented to the American Educational Research Association Annual Meeting, New Orleans, April.

Kounin, J. S. (1970). *Discipline and group management in classrooms*. New York: Holt Rinehardt and Winston.

Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge: Cambridge university press.

Locke, L. F. (1974) The Ecology of the Gymnasium: What the Tourists Never Sees. Manuscript prepared for delivery at the SAPECW Fall Workshop in Gatlinburg, Tennessee, October- November.

Müller, A.-L. (2015). Social Ecology: The Chicago School. In J. D. Wright (Ed.), *International Encyclopedia of the Social & Behavioral Sciences (Second Edition)* (pp. 263–268). Oxford: Elsevier.

Payne, P., Bennett, R., Brown, T., Burke, G., Cutter-Mackenzie, A., O'Connor, J., … Shooter, W. (2008). The social ecology of movement, environment and community. In *Austalian Association of Research in Education annual conference*. Canberra, Australie.

Pope, C. (2006) Interpretivist perspectives in physical education research, pp. 21-36 in Kirk, D., Macdonald, D. and O'Sullivan, M. (eds.) *Handbook of Physical Education* London: Sage.

Sallis, J. F., Cervero, R. B., Ascher, W., Henderson, K. A., Kraft, M. K., & Kerr, J. (2006). An ecological approach to creating active living communities. *Annu. Rev. Public Health*, *27*, 297–322.

Saury, J., Adé, D., Gal-Petitfaux, N., Huet, B., Sève, C., & Trohel, J. (2013). Actions, significations et apprentissages en EPS: une approche centrée sur les cours d'expérience des élèves et des enseignants. Paris: Éditions EP&S.

Schutz, A. (1962) *Collected Papers I: The Problem of Social Reality*. Edited by M.A. Natanson and H.L. van Breda. Dordrecht, The Netherlands: Martinus Nijhoff Publishers.

Suchman, L. A. (1988). Representing practice in cognitive science. *Human Studies*, *11*(2-3), 305–325.

Suchman, L. A. (2007). *Human-machine reconfigurations: plans and situated actions*. Cambridge: Cambridge University Press.

Templin, T.J. and Olsen, J. (1983, eds) Teaching in Physical Education. Champaign, Ill.: Human Kinetics.

Thayer, H.S. (1970, ed) *Pragmatism: the classic writings*. Indianapolis: Hackett.

Theureau, J. (2015). Le cours d'action : L'enaction & l'expérience. Toulouse: Octarès.

Varela, F. J., Rosch, E., & Thompson, E. (1992). *The Embodied Mind: Cognitive Science and Human Experience*. MIT Press.

Vors, O., & Gal-Petitfaux, N. (2011). Situations de travail par ateliers et configuration de l'activité collective en classe "Réseau Ambition Réussite." *eJRIEPS*, (22), 96–115.

Vors, O., & Gal-Petitfaux, N. (2015). Relation between students' involvement and teacher management strategies in French "difficult" classrooms. *Physical Education and Sport Pedagogy*, *20*(6), 647–669. http://doi.org/10.1080/17408989.2014.882889

Vors, O., Gal-Petitfaux, N., & Potdevin, F. (2015). A successful form of trade-off in compensatory policy classrooms. *European Physical Education Review*, *21*(3), 340–361. http://doi.org/10.1177/1356336X15569373

White, R. (1985) The importance of context in educational research, *Research in Science Education*, 15, 1, pp 92-102.