
Supporting teachers to implement TGfU: A needs based approach to professional learning

KELLY ANN PARRY ¹

¹ *The University of Wollongong*

ABSTRACT

Game Centred Approaches (GCAs) have become increasingly popular amongst physical educators because of their potential to enhance educational outcomes. Yet the literature has revealed that (a) teachers struggle to implement GCA lessons and units and (b) little is known about how to support teachers to explore and apply these approaches within their own practices. Furthermore, little research has been conducted with in-service teachers or how best to support the use of GCA pedagogies to ensure quality outcomes for students. This paper outlines a proposed approach toward professional development that is sustainable and needs based and one that may assist teachers with the implementation of GCAs.

This article proposes an approach to professional development (PD) that sets out to empower teachers and have them address the key constraints in their own school settings. In outlining this suggested approach to PD, this article addresses the characteristics of effective PD highlighted in the literature and considers those features of school improvement models and the organisational form of communities of practice where the goal was to create a self-improving learning system. In this way, the proposed model becomes one, which is research-informed and able to be adapted to individual teacher's needs.

TEACHING PRACTICE IN PHYSICAL EDUCATION

The last 30 years have seen a marked change in the landscape and development of Physical Education (PE) teaching practices, with the ‘Teaching Games for Understanding’ (TGfU) and ‘Sport Education’ (SE) models in particular having a substantial influence on teaching practices both within pre-service and in-service settings. Griffin, Patton and Brooker, (2005) highlight the significant contribution that TGfU and subsequent Game Centred Approaches (GCAs) have made on teaching practice and indeed research into teaching and learning within PE since its initial introduction by Bunker and Thorpe in 1982.

Whilst the TGfU model has become a prominent and prevalent feature within research, its impact within the practices of PE has yet to be fully realised and achieved (Pearson, Webb, & McKeen, 2005; Pill, 2013). It is argued that linear, performance-based teaching practice still dominates PE. As such, traditional methods, characterized by skill drills and technique practice prevail. The concern is that these prevailing pedagogical approaches continue to marginalise and alienate students’ and are insufficient in achieving worthwhile educational outcomes for students (Kirk & MacDonald, 1998; Cothran 2001; Ennis, 1999; Light & Georgakis, 2005). Kirk (2010) asserts, unless PE faces ‘radical reform’, its future is ominous; with fear it may even face extinction. As such, more research and inquiry is needed to understand how to assist teachers in implementing models, such as GCAs, to better meet the needs of the PE student.

GAME CENTERED APPROACHES (GCAs)

Game-centered pedagogies provide Physical Educators with a possible means to address the concerns of ‘traditional’ PE pedagogy and may provide a way of facilitating this reform (Kirk & MacPhail, 2002; Kirk, 2005; Kirk, 2010). GCAs offer a welcomed shift in pedagogy and a means for bringing PE into the mainstream school curriculum (Light & Fawns, 2003) by offering a practical application for enhancing student learning (Bunker & Thorpe, 1982). Research has reported the potential of GCAs to enhance participant motivation (Mandigo et al., 2008, Evans & Light, 2008) and engagement (Pearson, Webb, McKeen, 2005; Wright, McNeill, & Fry, 2009), improve tactical transfer between sports (Hastie & Curtner-Smith 2006; Memmert & Roth, 2007; Memmert & Harvey, 2010), promote the development of tactical knowledge (Griffin, Mitchell & Oslin, 1997; Butler, 1997; Grehaigne, Godbout &

Bouthier, 1999; Rovegno, Nevett & Babiarz, 2001) and develop effective decision makers (Di'az-Cueto et al., 2010).

The learning opportunities afforded by GCAs require teachers to shift from a traditional prescriptive linear approach to a more student-centred dynamic pedagogy that is representative of constructivist learning theory. GCAs require the role of the teacher to change to accommodate the changed focus of learning (Butler, 2006). Teachers need to adopt the role of a facilitator, placing the learner at the centre of the learning experience. Furthermore, Curry and Light (2007) have indicated that game-centred pedagogy provides an ideal means through which PDHPE teachers can address elements of quality teaching when teaching games and sport. These widely documented benefits of GCAs, partly due to their student-centered and constructivist underpinnings help bring PE practices into the mainstream school curriculum.

IMPLEMENTATION ISSUES WITH GCA

Entrenched mind sets and personal experience stemming from exposure to more 'traditional' approaches to learning (Light & Georgakis 2007), effects of culture (Light & Tan 2006) and problems with high level questioning (e.g. McNeill, Fry, Wright, Tan & Rossi, 2008) have all been attributed to the evident lack of uptake of GCAs. Roberts (2011) highlighted a number of pedagogical, conceptual, cultural and political dilemmas presented by game-centred pedagogy, suggesting the possible failure of GCAs to make a significant impact in shifting pedagogy in PE. Harvey and Jarrett (2013) report that the relatively short induction periods provided for GCAs, have provided limited support and fail to develop the sufficient pedagogical content knowledge (PCK) to teach using game-centred pedagogy, recommending that additional induction and development measures are required. There is an evident 'epistemological gap' (Light, 2008) between GCA theory and teaching practice. Therefore, this research will endeavour to respond to this gap.

PROFESSIONAL DEVELOPMENT AS A MEANS TO ADDRESS THE ISSUES

Professional development opportunities are seen as critical mechanisms to facilitate teacher learning (Bechtel & O'Sullivan, 2006). Professional learning, constituted as the daily learning embedded within the role of the teacher (Berry, Clemans, & Kostogritz 2007), along with professional development are viewed as central to improving education (Guskey, 2002). Most

professional development research is driven by the impetus that “effective professional development will improve teacher instructional practices, which will result in improved students learning” (Opfer & Pedder, 2011, p.384). Thus examining professional development and teacher learning within GCAs may provide insight into bridging the ‘epistemological gap’ (Light, 2008) between the GCA theory and teaching practice. Exploring the characteristics of effective professional development, whilst considering the complex nature of teacher learning will help inform the development of an effective professional development model. This ensures the proposed model is one that is research-informed and adapted to individual teacher’s needs. Thus sets out to empower teachers and have them address the key constraints in their own school settings.

PROFESSIONAL DEVELOPMENT IN PHYSICAL EDUCATION

Alarming, the PE professional development literature is fraught with concern with the current state of professional development (Armour & Yelling, 2004, Armour and Yelling, 2007; Armour, Makopoulou and Chambers, 2012, Bechtel and O’Sullivan, 2006), which echoes the wider PD literature (Borko, 2004; Day, 2004; Fishman, Marx, Best & Tal, 2003). There is growing body of research that calls for improvements and commitment to the quality and design of teachers’ career-long professional learning, if the quality and standards of pupils’ learning are to improve.

The research reports unified concern for traditional forms of PE professional development, describing them as ‘insufficient’ and ‘inadequate’ in supporting teachers and facilitating change to current practice (Armour and Yelling, 2004, 2007; Armour & Makopoulou, 2012, Bechtel & O’Sullivan, 2006). Significant research focusing on professional development opportunities within PE reported that current forms of professional development lack depth and challenge and provided little coherence or progression (Armour & Yelling, 2004, 2007). Furthermore, there was evidence to suggest a gap exists between what PE teachers wanted and need to know, and what is available (Armour & Yelling, 2004).

It is clear that professional development opportunities are in need of serious re-evaluation; particularly, if they are to have any significant impact on practice and subsequently improve the quality and standards of students learning (Fishman et al., 2003; Day, 2004; Armour & Yelling, 2007). Bechtel and O’Sullivan (2006), suggest that in order to design more-effective PE PD programs, opportunities need to be created for teachers to engage in critical discussion

about their ideas with peers, ensuring that teacher's knowledge of the subject matter, of teaching and learning, and of their students is shared and valued. Furthermore, PD experiences need to be designed where teachers can "admit deficits without being considered deficient" (p.378).

Current professional development opportunities in GCAs have little value if they continue to emanate from these traditional professional development models. If teachers are going to be supported in implementing GCAs, they need to be provided with effective professional development that is capable of empowering them with the knowledge and skills they need to transform their practice.

EFFECTIVE PROFESSIONAL DEVELOPMENT

There is a wealth of research that identifies the features and characteristics of effective professional development, and the types of professional development that are likely to enhance teacher and pupil learning (Armour & Yelling, 2004, 2007; Armour, Makopoulou & Chambers, 2012). Of particular importance is the longitudinal research conducted by Armour and her colleagues that specifically looks at continuing professional development (CPD) in PE, with an emphasis on the progression of teacher's career-long professional learning (Armour & Yelling, 2004).

The current literature on professional development highlights a range of elements that constitute quality or effective professional development. It is evident that if professional development is to be effective for physical educators, it needs to focus on both the subject content and how children best learn (Corcoran, 1995), thus it is essential that professional development opportunities be designed to improve knowledge of content and general pedagogy (Garet et al., 2001). Professional development needs to be situated, practical and 'hands on' (Armour & Yelling, 2004), giving teachers the opportunity to engage with material (Borko, 2000). Importantly, professional development opportunities need to be relevant and applicable, where teachers can transfer what they learnt to their own teaching context (Armour & Yelling, 2004; Garet, 2000). Teachers value professional development opportunities that are challenging, are thought provoking and provide them with 'ideas' and 'practices' that they can use (Armour & Yelling, 2004). This aligns with social constructivist theories where learning is viewed as an "active and creative process involving individuals in interaction with their physical environment and with other learners" (Kirk & Macdonald,

1998, p.377). Armour and Yelling (2004) also identified that teachers valued the informal or incidental professional development that was unplanned, where they were given the opportunity to informally share ideas with colleagues.

The most significant features of effective professional development were opportunities that offered teachers time for reflection and collaboration (Guskey, 2003; Armour & Yelling, 2004). McLaughlin and Zarrow (2001) state, “learning is a social process, where the process in critical ways comprises the product, and where the knowledge generated by the community is more than the sum of individuals’ learning (p.99). The notion of collaboration was highlighted in Nash’s (2009) study into the use of ‘communities of practice’ (CoP) when teaching TGfU to pre-service teachers. The social learning experience provided by the community of practice (Nash, 2009) assisted in developing a deeper sense of how to implement TGfU effectively in their pedagogy. Thus this notion of social learning needs to be embedded in a model of effective professional learning. Significantly, the research shows that teachers want professional learning that is continuous and structured to ensure that career long learning needs are met (Armour & Yelling, 2004). It needs to develop a more ‘long range, capacity building approach” (Falk, 2001, p.119).

It is evident that designing effective professional development opportunities for teachers in PE (and other learning areas) is a difficult task (Armour & Yelling, 2004; Bechtel & O’Sullivan, 2006). Research into professional development and teacher change helps to provide a framework to guide the process so that more effective professional development programs can be created (Guskey, 2002).

ACTION RESEARCH AND PROFESSIONAL DEVELOPMENT

Kemmis and McTaggart (1988) define action research as “a form of collective self reflective inquiry undertaken by participants in a social situation in order to improve rationality and justice of their own social practices, as well as their understanding of the practices and situation in which these practices are carried out” (p. 5). Their notable research framework guides this research. It involves the on-going process of 1. Planning: develop a plan for implementing game centred approaches, 2. Acting: implement the plan, 3. Observing: observe and document the effects of the plan and 4. Reflecting: reflect on the effects of the plan for further planning and informed action (Kemmis & McTaggart's, 1988).

Kirk (1995) identifies action research as a strategy for improving teaching and learning in PE. Significantly, Len Almond (1986) pioneered the use of action research in PE with his work using the TGfU Model. In 'Rethinking Games Teaching' (Bunker, Thorpe, & Almond, 1986), Almond encouraged teacher involvement in educational research, advocating action research for its potential to enable teachers to learn more about their pupils, their teaching and games. According to Noffke and Stevenson (1985), action research leads to self-understanding, professional growth, and political change.

In education contexts, action research is used by teachers to explore their own practice in order to better understand how they can support students' learning. As Gould (2008) emphasises, action research is a "professional development strategy that puts the teacher at the centre of the professional development process" (p. 5). Moreover, Griffin, Brooker and Patton (2005) suggest "field-based research needs to be an essential part of good development work thus leading us toward research based practice (p. 213). Action research puts the teacher at the centre of the process, which is crucial in identifying how best to support them. Since the aim of this study is to develop a needs based model of professional development that supports the implementation of GCAs, action research proves an effective framework to support teachers.

THEORETICAL FRAMEWORK

Constructivist theories and complexity thinking provide the theoretical background for this study, as it offers a rich interpretive framework to examine learning and pedagogy.

Constructivist theories reflect a shift in the assumptions and beliefs about learning and knowledge, or more specifically, how learning occurs and how knowledge is conceived.

Complexity thinking provides a means for understanding human action, knowledge, identity and learning (Stacey, 2001); while 'complex' learning theories offer a more useful description of the range of constructivist approaches (Davis et al., 2000, Light, 2008).

Rink (2001) suggests that all instructional methodologies are rooted in some form of learning theory and initiating any change process must involve some understanding of the theories that support it and the subsequent assumptions about learning. Thus in order to explore the process of teacher professional learning when adopting game centred pedagogy, it is important to understand these learning theories.

Adopting a constructivist framework and complexity thinking will allow this study to examine teaching practice and professional learning in a way that can attempt to transcend the simplistic, reductionist, behaviourist view of teacher learning and provides insight into the complexity of teaching and learning environments. Such a framework broadens the debate on the nature of learning (Light, 2008) and the concept of knowledge, regarding learning as a complex system (Davis & Sumara, 2006; Opfner & Pedder, 2011).

In addition to considering constructivist and complexity theories to understand learning, this study draws upon theoretical frameworks concerning teacher change. It uses Guskey's (2002) model of teacher change to better understand and develop high quality professional learning opportunities. Significantly, Guskey's (2002) alternative model re-examines the process of teacher change and provides a guide for the creation of more effective professional development. This allows this research to explore the best form of professional development to support teachers in implementing game centred pedagogy.

CONSTRUCTIVISM

Constructivism is concerned with a holistic view of learning and how learning occurs. Davis and Sumara (2003) argue that there is no 'constructivism', rather a 'diversity of discourses' that can be gathered under the constructivist banner. It is these various forms of constructivism, that have since provoked Davis, Sumara and Lace-Kapler's (2000) and Light (2008) to argue that the term 'complex' learning theories is better suited to describe these different discourses. As such, it is a complexivist framework that will predominantly guide research within this study, posing an alternative to constructivist perspectives and providing an interpretative lens in which to view teaching and learning. However, it is essential to understand the basis of constructivism to inform the philosophical underpinnings of complexity theory

CONSTRUCTIVIST LEARNING THEORY

Constructivist learning theories have become increasingly popular in PE (e.g. see Grehaigne, Richard, & Griffin, 2005; Kirk & Macdonald, 1998; Kirk & MacPhail, 2002; Light, 2006; Light & Fawns, 2003; Rink, 2001) and extensively employed in research concerning teacher professional learning (Armour & Yelling, 2004, 2007; Borko, 2004).

Constructivist approaches challenge behaviourist beliefs about learning that have dominated teaching and learning in PE in the twentieth century (Light, 2008). In the early twentieth century, behaviourism dominated educational theories, where research and learning were viewed as a process of stimulating learners to behave differently. A behaviourist views learning as simplistic and linear, believing that learning occurs as a result of direct changes in the environment (McMurtry, 2008). Behaviourism sees the learner in isolation from the learning experience, viewing learning as a mechanical process (Light, 2008). Behaviourists try to understand learning by reducing it to its simplest components (Light, 2008).

This simplistic conceptualisation of learning fails to consider the complexity of the learning process. Subsequently, it is these limitations that gave rise to constructivism and constructivist learning theories. A constructivist views learning as a process that is continuous, dynamic and complex (Davis, Sumara & Luce-Kapler, 2000; Light, 2008) and believes that learning is not just a matter of modifying behaviour, nor can it be understood by linear causality (Davis & Sumara, 2006). Constructivists argue that knowledge is built on prior knowledge (Hinshaw, Burden & Shriner, 2012) and that learning is a social process and involves active interaction with the material (Fosnot, 1996).

DIFFERENT FORMS OF CONSTRUCTIVISM

Light (2008) provides a summary of the different forms of constructivism, identifying psychological constructivism and social constructivism as the two main forms. He explains, ‘psychological constructivism emphasises the intrapersonal dimensions of learning and personal meaning making’ (Light, 2008, p.25) and from a social constructivist perspective, ‘cognition is seen not as an individual process but instead as a collective process spread across the individual’s world’ (Light, 2008, p.25). Psychological constructivism draws upon the work for Piaget, recognising that new knowledge is built through the ‘interaction of his or her previous experience and knowledge and new experiences’ (Light, 2008, p.24). Social constructivism is influenced by the work of Vygotsky (1978) who views cognition occurring ‘beyond the body’ (Light, 2008, p.25).

In construing constructivism, Davis, Sumara & Luce-Kapler (2000) and Davis and Sumara (2003) identify the commonalities between the different constructivist discourses; suggesting they meet around 3 broad issues. Firstly, on the matter of dynamics, suggesting that the phenomena of learning and knowing, is seen as a ‘complex, continuous processes by which a

cognizing agent maintains its fitness with/in an evolving landscape of activity' (Davis & Sumara, 2003, p. 125). Secondly, they recognise that learning is a social process, where knowledge is seen as 'enfolded in and as unfolding from collective knowledge and activity' (Davis & Sumara, 2003, p. 125). Thirdly, Davis and Sumara (2003) suggest that constructivist theories share common ground in that they reject 'representationist' accounts of cognition'; Light (2008) summarise a constructivist perspective by suggesting 'learning involves processes of interpretation in which there is no pre-given external reality' (p.28).

In his summary of the different forms of constructivism, Light (2008) supports Davis, Sumara and Lace-Kapler's (2000) term 'complex learning theory', arguing that it offers a more useful description of the different constructivist approaches. Light (2008) suggests the term 'complex learning theory' helps to identify what all constructivist theories have in common and offers a more inclusive and broader perspective for referring to different constructivist approaches, including Lave and Wenger's (1991) notion of 'situated learning'. It is for this reason that this research adopts a complexivist perspective.

Complexity thinking provides a more dynamic, contextualised and adaptive framework for viewing teaching and learning. This is particularly important in researching the process of teacher learning and when seeking to understand what is needed to support teachers in implementing quality game centred approaches. Discussing learning from a complexivist perspective considers the interplay of these various dynamics on learning.

COMPLEXITY THEORY

Complexity theory has become a major influence in discussions about the theory and practice of education (Osberg & Biesta, 2010). Similar to Davis and Sumara's (2003) view of no constructivism, Osberg and Biesta (2010) acknowledge that there is no coherent 'complexity theory'. Cilliers (2010, cited in Osberg & Biesta) draws upon the work of Morin (2007), providing a background to the different 'disciplines' of complexity and distinguishes between 'general' and 'restricted' complexity. Ovens et al (2013) prefer the term 'complexity thinking' and believe that 'complexity provides ways of understanding that embrace uncertainty, non-linearity and the inevitable 'messiness' that is inherent in educational settings' (Ovens et al, 2013, p. preface).

Framing learning in a complex paradigm recognises the fluctuating environment of the learner and the recursive and dynamic connection that exists between the learner and the

teacher (Ovens & Godber, cited in Ovens et al., 2013). Ovens and Godber (2013, cited in Ovens et al.) suggest that research framed by complexity thinking can be described in three ways, which are pertinent to the selection of a complexivist framework for this study. Firstly, it appreciates how the researcher is entwined in the research process and entangled with the phenomenon being researched' (Ovens & Godber, cited in Ovens et al., 2013). Secondly, complexity thinking remains sensitive to the research method, yet open to the creativity and insight in which one brings to the interpretation. Thirdly, complexity thinking presents a means to explore a more meaningful interaction with reality of which the researcher is part.

Since the role of the researcher within this study is one both as a subject and object, complexity-thinking presents a framework that appreciates and values how the researcher is weaved within the research process and provides an interpretive and pragmatic lens to view the teaching and learning process.

THE COMPLEX NATURE OF PROFESSIONAL DEVELOPMENT

Opfer and Pedder (2011) propose that it is an 'epistemological fallacy' to view teachers' learning in such a serial fashion that suggests a relationship between the 'effective' forms of activity and teacher change. They recommend a shift in the conceptual framing of teacher learning and professional development research from a 'cause-and-effect approach' to a focus on 'causal explanation' so that we understand under what conditions, why, and how teachers learn. Teacher learning needs to be conceptualized as a complex system rather than as an event (Davis & Sumara, 2006; Hoban, 2002). Viewing learning as a complex system enables this research to consider the interplay of a range of contextual factors within the educational setting and provides a means to truly understand under what conditions, why, and how teachers learn when implementing GCAs. In this way, the proposed model becomes one, which is research-informed and able to be adapted to individual teacher's needs.

COMPLEXITY THINKING AND PROFESSIONAL DEVELOPMENT

Complexity thinking recognises that learning is linked to social interaction, where knowing is inseparable from experiencing, identifying learning as an on-going process of adaptation (Davis et al, 2000). Adopting complexity thinking provides a more dynamic, contextualised and adaptive framework for viewing teaching and learning. This is particularly important in researching the process of teacher learning and when seeking to understand what is needed to

support teachers in implementing quality game centred approaches. Ovens et al (2013) suggest, ‘complexity provides ways of understanding that embrace uncertainty, non-linearity and the inevitable ‘messiness’ that is inherent in educational settings’ (p. preface). Discussing learning from a complexivist perspective considers the interplay of these various dynamics on learning and will provide insight in how to facilitate and sustain change.

A PROPOSED MODEL OF PROFESSIONAL DEVELOPMENT

The proposed professional development model is illustrated in Figure 1. As the diagram suggests, there are four key phases to the model, which will be guided by the teacher participants. The teacher participants will be engaged in the continuous Action Research (AR) process of Planning, Acting, Observing and Reflecting as outlined by Kemmis and McTaggart’s (1988). Sagor (2000) states “The primary reason for engaging in action research is to assist the actor in improving or refining his or her actions” (p.134). Thus supporting the benefits outlined by Kirk (1995) and Almond (1986) in using action research to support professional development.

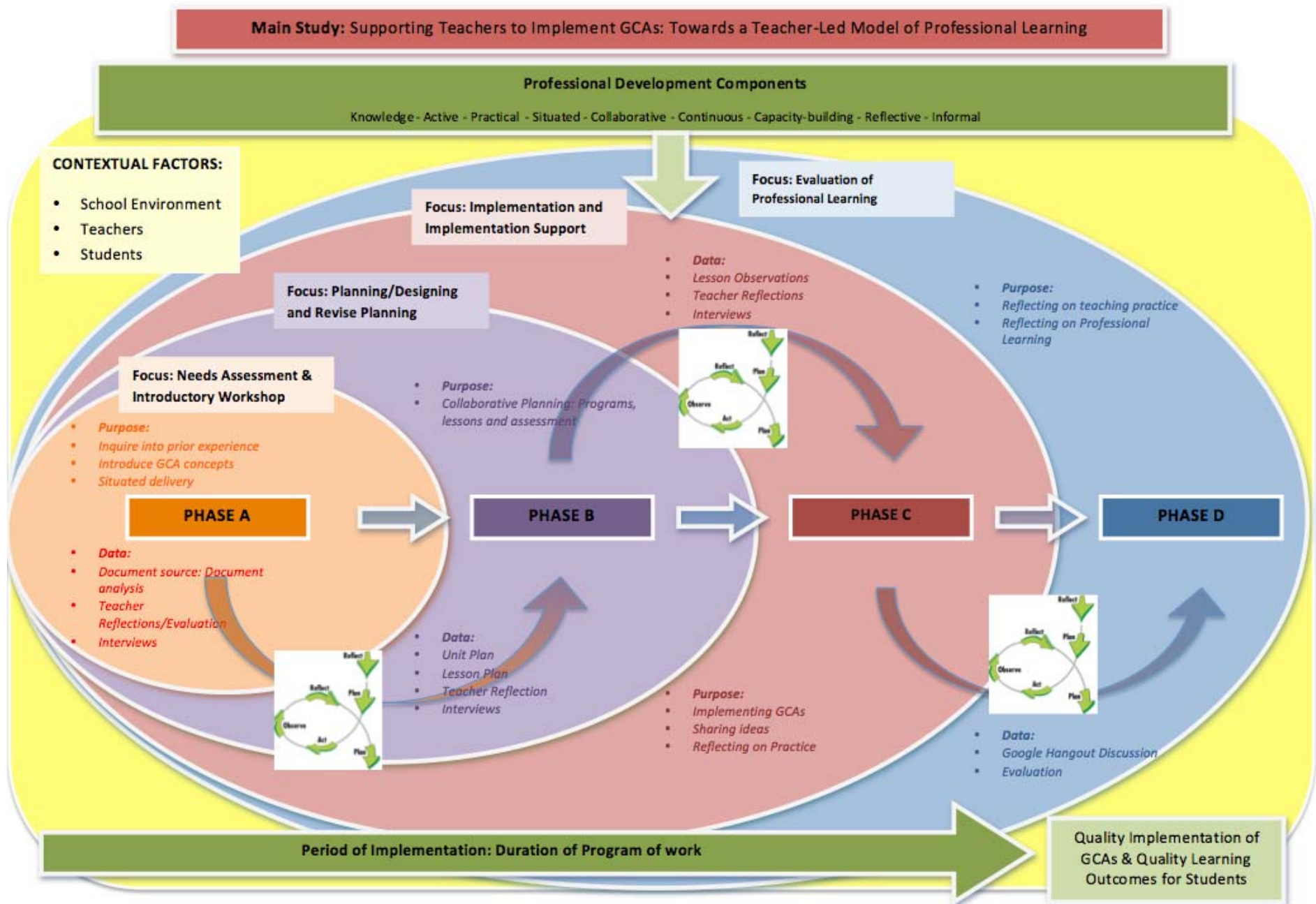


Figure 1: Proposed model of Professional Development

PHASE A: INTRODUCTORY WORKSHOP – NEEDS ASSESSMENT

An introductory GCA workshop will be designed using a team of GCA ‘experts’, in consultation with the teacher participants, following a needs assessment to identify what pre-existing knowledge of GCAs teachers have and what Professional Learning they need. The GCA workshop will also be designed based upon previously identified features of high-quality Professional Development identified in the literature (Document Source); including a focus on developing content knowledge, active learning and situated practice. The workshop will be conducted by one of the GCA ‘experts’, who is familiar with both the GCA approach and the challenges of implementing GCAs in school setting. It is anticipated that the workshop will be divided into three parts.

First Session

The first part will be designed so the teachers learn the content of a GCA approach, including why it was developed, how it is structured, and how it differs from traditional teacher-directed, sport-based instruction. The workshop content will be determined based on the teacher’s pre-existing knowledge of GCAs, as a result of the consultation and needs assessment. This curricular knowledge will be delivered based on the teachers’ needs on how to best support their learning.

Second Session

During part two of the workshop, the teachers will be asked to apply this knowledge through active learning within small groups and problem-solving tasks. The teachers will be placed in small groups and assigned the task of planning and delivering to their peers a sample lesson, representative of one within a GCA unit. The pedagogical problems addressed within this phase will be indicative of those within a GCA approach, including high-levels of questioning, setting up small-sided/modified games and facilitating game play scenarios etc. The purpose of this application phase is for the teachers to problematize the teaching methodologies required to deliver a student-centred curriculum such as GCA.

Third Session

The final part of the workshop will include a reflection-based group discussion and an individual teacher reflection/evaluation on the instructional practices and issues related to implementation of GCA in their specific school contexts.

Open-ended questions will be used to ask teachers about their perceptions of learning during the GCA workshop. Example questions to be used are: What is your understanding of the purpose/s of the GCA curriculum from today's workshop? After today's workshop what element(s) of the GCA model do you now feel most comfortable in implementing at your school site? And what do you need to support your planning within GCAs?

PHASE B: PLANNING/DESIGNING

During this phase of the model, the teachers will collaboratively plan units of work and subsequent lesson plans. Teachers will be encouraged to work together to devise the units, reflecting on the workshop and providing each other feedback as to inform their planning. This is a collaborative process, where the teachers are encouraged to draw on each other's assistance to complete the planning. They are encouraged to ask for any additional support or resources they may require within this phase.

The teachers will be required to submit their GCA units and lesson plans to be analysed. To analyse the elements of GCA included in the teachers' unit and lesson plans, the researcher(s) of the study will independently code each unit and lesson plan using the GCA elements identified in the GCA observational instrument. Teachers will have access to this GCA benchmark observational instrument to assist their planning and reflection.

GCA OBSERVATIONAL INSTRUMENT

A GCA benchmark observational instrument has been designed based on Meltzer's (2011) Tactical Games teacher benchmarks, in order to discriminate teacher pedagogical behaviours necessary for the delivery of a typical GCA unit versus a traditional teacher-directed approach. The benchmark checklist includes the eight tactical games teacher benchmarks outlined by Metzler including:

1. Creating a tactical problem as the organising centre for learning tasks,
2. Teacher begins unit segment with a game form to assess student knowledge,
3. Teacher identifies needed tactical and skill areas from game form,
4. Teacher uses deductive questions to set students to solve the tactical problem,
5. Teacher uses clear communications for situated learning tasks,
6. Teacher uses high rates of guides and feedback during situated learning tasks,
7. Assessment

Within these features, specific teacher behaviours such as introducing a tactical problem for students to solve, using small sided/modified games within lessons will be identified that will be judged to sufficiently reflect a pedagogy that emphasised each of the core principles of GCAs.

The observation instrument will be used to code the teachers' GCA units and lesson plans (Phase B), and teacher behaviours (implementation) within the school setting (Phase C). Two observers, both familiar with GCA, will be trained prior to the intervention to identify the benchmark elements relevant to the GCA benchmark observational instrument. The teachers will also be encouraged to use the tool when reflecting on their own lesson. The benchmark tool will then provide a stimulus for critical reflection for the teachers where the researcher acts as a facilitator of learning and uses the benchmark elements as feedback to promote critical dialogue between the teachers in order to revise and improve their units/lesson plans.

PHASE B: REVISE PLANNING

Once the unit and lesson plans have been coded, they will be returned to the teachers to inform them of how their planning aligned with the benchmarks, and for subsequent revisions to be made. Teacher interviews will be conducted to discuss this planning phase and respective revisions. The researcher will facilitate learning by guiding critical reflection using the benchmark tool and GCA expert feedback. Questions will be asked to determine teachers' reason for the selection, inclusion and exclusion of GCA elements within their unit/lesson plans and the subsequent changes they will make to improve their unit/lesson plans. Thus ensuring that the priority in establishing the units is guided by the knowledge and practices of

the teachers not in isolation from the situated context of learning. Finally, the teachers will be asked what it is they need to support their implementation of GCAs?

PHASE C: IMPLEMENTATION

During the implementation phase of the model, teachers' are required to teach their planned program of work and individual lessons. They are encouraged to reflect on the lesson straight after it has been taught. GCA lessons will be observed at the school site. The GCA benchmark observational instrument will be used to code teacher GCA pedagogical behaviour. The GCA experts will code the lesson along with the teacher; this will then provide a stimulus for critical discussion following the lesson, providing a guide for improvements to subsequent lessons.

Phase C: Implementation Support

Teachers will also be required to submit their lesson reflections for analysis. Teacher interviews will be conducted to inform teachers of how their lessons aligned with the benchmarks and to find out what teachers need to support them through this implementation stage. The teacher reflections will be used to guide critical discussion following the lesson and prior to the next lesson in the unit. Teacher reflections will be coded and any interesting findings or emergent themes will be discussed with the teachers during the interviews.

PHASE D: EVALUATION

After the completion of the school GCA unit, each participant will be interviewed regarding their perceptions of PD learning and the unit of GCA they delivered. These interviews will be conducted by the primary researcher in an individual face-to-face format over a period of 20 min. Questions focused on the teachers' implementation of the model and their rationales for their practices. Examples of questions posed included, what elements of the GCA model did you use in your unit? And what barriers did you face in implementing the GCA unit? Phase D interview data will be transcribed and then analysed using descriptive comparisons and content analysis by the researchers of the study.

CONCLUSION

In conclusion, this paper has explored the background to GCAs within a PE context and highlighted the disparity between GCA theory and practice. The article proposes professional development as a means of bridging the ‘epistemological gap’ between GCA theory and practice. However, expresses concern regarding the current state of teacher professional development. This paper has explored the characteristics of effective professional learning and supports the need to consider the complex nature of teacher learning. It highlights the need for a shift in the conceptual framing of teacher learning and professional development research and proposes a model that tries to understand under what conditions, why, and how teachers learn. This requires professional learning to move beyond a ‘cause-and-effect approach’, to one that views learning as a complex system. Viewing learning through a complexivist lens considers the interplay of a range of contextual factors within the educational setting. This paper proposes a model of professional development that can be used by teachers to plan, teach and assess GCAs that is teacher-led, sustainable and needs based. The four phases of the proposed model are summarised to provide an overview of an approach that is research-informed and able to be adapted to individual teacher’s needs.

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