

**Piloting the Play Cycle Observation Method (PCOM) in ‘real time’: Recording Children’s Play Cycles in pre-school provision.**

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**Abstract**

The Play Cycle Observation Method (PCOM) is an observational tool developed to focus on the process of play and has shown good reliability when watching videos of children playing. This study was a pilot on using the PCOM in ‘real time’ in a pre-school setting where 3-year-old children play. The results from two independent observers not familiar with the concept of the Play Cycle or the PCOM found good inter-rater reliability using Cohen Kappa (k) when observing play cues to form play cycles, as well as observing play cues within established play cycles. In addition, the recording of the nature of the play cues and play returns, the play frame and how the play cycle finishes (annihilation) were shown to be consistent between the two inter-rater observers. The results of this pilot study indicate the PCOM can be used as an observational tool to record the process of play by both students and practitioners working in a range of contexts including playwork, childcare, early years and statutory education. The PCOM can also be used as a teaching and training aid for trainers and lecturers.

**Key Words: Play; Play Cycle; Play Cycle Observation Method; Pre-school; Observation**

## **Introduction**

The Play Cycle (referenced withheld; reference withheld; Sturrock & Else, 1998) is a playwork theory on the “looping cycle of play” (p. 80). The focus of the Play Cycle is the process of play, not on outcomes that may result when children engage in play. By focusing on the process of play, a more child-centred or child-led consideration of play can be undertaken by the professional practitioner, as in non-directive play therapy (Ryan & Edge, 2011). In non-directive play practice, first developed by Axline (1947), the professional practitioner ‘follows the lead’ of the child to support the play process and not dominate it (referenced withheld). Although playwork and play therapy are two distinct practices, the former “enriches and enhances children’s play” (SkillsActive, 2010, p. 3), the latter to support children to “to explore their difficulties, hurts and feelings via play” (Pidgeon, Parson, Mora, Anderson, Stagnitti, & Mountain, 2015, p. 155), both do focus on the process of play (Sturrock & Else, 1998).

In other professional areas, for example pre-school, early years and formal schooling, it is the outcome of play the practitioner focuses on, for example in play-based learning (Pyle, DeLuca & Danniels, 2017). Rather than using non-directive process led play, a more directive outcome-based approach is adult-led to meet an adult-agenda. However, whether a non-directive or directive approach is used, play will still go through a ‘process’. An observation method of recording the process of play, the Play Cycle Observation Method (PCOM) (reference withheld) has been piloted using a video of children playing in a non-directive playwork environment. This research paper is pilot study of the PCOM in ‘real time’, where two independent observers undertook 11 observations simultaneously on the same ‘target’ children. Although the Play Cycle (Sturrock & Else, 1998) was originally developed for school-aged children within a playwork context, the Play Cycle has been incorporated in other areas which include childcare (reference withheld) and autism (Conn, 2016). The observations for this study were undertaken in a pre-school learning environment, rather than a non-directive play environment, however the focus was still on observing and recording the process of play.

## **Background Information of the Play Cycle**

The Play Cycle was first proposed as a playwork theory by Gordon Sturrock and Perry Else at the 1998 International Play Association (IPA) conference in Colorado, USA where they presented a paper 'The Playground as Therapeutic Space: Playwork as Healing, which is more commonly known as 'The Colorado Paper'. Sturrock and Else (1998) put forward the argument that playworkers, like therapists, are "in a position to understand the content and meaning of children's play from a therapeutic perspective (reference withheld; p. 15). This 'content and meaning' of children's play is through an understanding of The Play Cycle.

Sturrock and Else's (1998) original concept of the Play Cycle was broken down into six elements: metalude; play cue; play return; play frame; loop and flow and annihilation (Sturrock & Else, 1998). This is presented as a cycle where the play cue is emitted from the child's inner world to the their outer world and if this cue has a response (play return), the play return moves from the outer world back to child's inner world where the cue was issued. However, this has been recently revised to pre-cue, play cue, play return, play frame, flow and annihilation (reference withheld). For a detailed explanation of these six elements, see [reference withheld] or [reference withheld]. When observing the Play Cycle, two of these elements are not easily observable, the pre-cue and flow. The pre-cue is the "conscious or unconscious thought or idea within the child's inner world which may result in the issue of the play cue" whilst the flow is "where play cues and play returns are continually being processed between the child's 'inner and outer world', resulting in the child appearing 'lost' in their play" (reference withheld, p. 100). It is not possible to 'observe' a pre-cue, only the subsequent play cue, and whether a child is in flow or not can only be inferred, although the play return, the response to the play cue is observable. This is an important consideration for reflective practice as what is observed by the adult may be different to the child's reasons.

The observable elements of the Play Cycle are the play cue, the play return, the play frame and when the Play Cycle finished or annihilation. The play cue is "a verbal or non-verbal action expressed to the child's outer world as a signal or invitation to play" (reference withheld, p. 11) whilst the play

return is “a verbal or non-verbal action from a person or object in the child’s ‘outer world’ responding to the play cue” (reference withheld, p. 11). The play frame is the “visible (physical) or imagined (non-physical) boundary that keeps the Play Cycle intact for the play to continue (reference withheld p. 11) and annihilation is where “the play has finished where an element of the Play Cycle, or the play frame has no interest to the child” (reference withheld, p. 11). The Play Cycle provides the opportunity to observe and record the process of children’s play, rather than using play as an outcome, such as assessment.

Observations of children’s play often fall within two forms of assessment: play assessment and play-based assessment. Play and play-based assessment differ where play assessment “reflects the interaction between the child and the social and physical environment ... whose main objective is to measure the many dimensions of play” (Ray-Kaeser, Châtelain, Kindler & Schneide, 2018, p. 20). . Play-based assessment “includes norm-based measures designed to evaluate particular developmental skills that may be observed through play activities” (Ray-Kaeser et al, 2018, p. 21). Whether a play, or play-based observation is being undertaken, the assessment of play is mapped to some form or measure or outcome where “most play observational tools examine only certain aspects of play, such as specific play skills and play behaviours” (Ray-Kaeser et. al., 2018, p. 29). Bulgarelli, Bianquin, Caprino, Molina and Ray-Kaeser (2018) reviewed 29 different methods of observing play and play-based assessment where very little consideration is given to the ‘process’ of play, one exception being Chazan’s (2009) Children’s Development Play Instrument (CDPI) where step 2 of the observation involves the recording of “whom the play is initiated, how it is sustained, and how it ends” (p. 421). This reflects the play cue, play return, play frame and annihilation of the Play Cycle. A more recent method of observing the process of play has been developed, the Play Cycle Observation Method (PCOM) (reference withheld, see also reference withheld).

The PCOM does not focus on a play type as in play assessment or a developmental area within play-based assessment. The PCOM focuses on the process of play and allows the recording of the number and nature of play cues and play returns in both forming Play Cycles as well as within established

Play Cycles. Other aspects that can be recorded include the length of time established, the type and nature of the play cue and play return (verbal or non-verbal) and the type of play being observed (play frame). How Play Cycles finish (annihilation) can also be described (whether the child initiating the play cue for example, or is terminated by somebody else, for example an adult). In addition, the adult involvement in the Play Cycle can be observed and described. By focusing on the process of play, the PCOM is very child-centred and child-led observational tool and not restricted to a type of play such as pretend or social, it offers the opportunity to observe all types of play. The PCOM can be used in conjunction with more play and play-based observation assessments.

The PCOM was piloted using a video of children playing and the initial pilot study (reference withheld), and a replication study (reference withheld) found the PCOM had good reliability when different people were recording children's Play Cycles when watching the same video. The use of video in observation work allows the observer to pause, rewind and check for play cues and play returns, however this opportunity is not an option when observing children in 'real time'. This raises the question, how reliable is the PCOM when used in 'real time'? This question forms the basis of this research paper.

The University of Central Oklahoma (UCO) has on campus a Child Study Centre which comprises of an observational booth which is situated where a pre-school provision runs. The observation booth provided a unique opportunity to pilot the PCOM in 'real time' without the observing adult disturbing the child whilst they play in a natural setting. By the adult being 'hidden' from the child's play, this prevents the risk of the Hawthorne Effect (Oswald, Sherratt & Smith, 2014). The Hawthorn Effect was identified as a concept in observational research in the studies of the Western Electric Company between 1924 and 1934 where:

The Hawthorne experiments accidentally discovered what is now known as the Hawthorne effect. This effect can contaminate the natural social environment being studied, and hence

overcoming any adverse effects of this phenomenon is very important Oswald et al., 2014, p. 57)

The testing of the PCOM in 'real time' was undertaken by two independent observers watching a single target child playing in their natural pre-school environment. The study of children in a pre-school environment allows the recording of the process of play, where often play is set up and planned by adults with the aim of meeting an objective. With both observers watching the same child at the same time, this provided the same opportunity as the pilot study where the participant observers were watching the same children playing on a video (although obviously in this study, observers did not have the ability to 'rewind' and watch again) on how reliable an observational tool the PCOM is. The aim of this study was to test the reliability of the PCOM in recording the process of play in 'real time' within a pre-school setting.

## **Method**

The research study was granted ethical approval by both the ethics committee of the College of Human and Health Science at Swansea University and the ethics board from the University of Central Oklahoma. The study was undertaken between October and November 2019 in the Child Development Centre at the University of Oklahoma. Informed consent was obtained from the parents and carers of the children using the pre-school provision, and with the covert nature of the observations and the age of the children, consent was not obtained from the children themselves. Consent was also obtained from the pre-school staff who may be working in the pre-school when the observations were being undertaken.

## **Observation Setting**

The University of Central Oklahoma Child Study Centre is a program that serves as a training/research facility while providing high quality care to children. The centre provides part time care serving 3-year olds in the morning program and 4-5-year olds in the afternoon and can serve 20 children in each program. The environment is set up with areas (centres) where children have the

opportunity for free exploration and play. The environment includes areas such as blocks, art, dramatic play, manipulatives, puzzles and writing. Outside of the centre is an observation booth that has a sound system, so the children and teachers can be observed without being disturbed. The child study centre has two full time teachers and two part time graduate assistants. University students spend time in the child study centre that corresponds with their coursework.

### **Procedure**

The Play Cycle Observation Method (PCOM) involves observers to use specifically designed observation sheets to quantitatively record play cues, play returns and Play Cycles. The sheets can also collect qualitative data of play frames, annihilation and the adult role in the Play Cycle (see reference withheld ; reference withheld). Each of the two independent observers were provided with a supply of PCOM recording sheets and a PCOM recording table (see reference withheld). The PCOM has been developed to use on a single 'target child' who will play in a social context no longer than 10 minutes. The play cue may be issued by the 'target child', 'non-target child' or and 'adult' in the pre-school observation. If a 'non-target child' or 'adult' issue the play cue, the 'target child' must provide the play return in order to be involved in the Play Cycle. If the 'target child' issues the play cue, either the 'non-target child' or 'adult' may give the play return. If the target child is playing on their own, the play cue may focus on something in the environment (object for example) and this can be inferred to be the play return, as the child on their own will form a Play Cycle. Provided there is a response to the play cue and either involves the 'target child', a Play Cycle is established and recorded.

Two members of the research team acted as the independent observers with no experience of using the Play Cycle Observation Method (PCOM). The first observer is qualified and experienced in early childhood education and the other in family life education. Prior to any observations being undertaken, both independent observers were sent the instructions on how to use the PCOM and the data collecting recording sheets. This was followed up with a SKYPE meeting to discuss and clarify the use and interpretation of the PCOM. From this SKYPE meeting, it was decided to send both

independent observers the video link used in the pilot study (reference withheld) to practice using the PCOM prior to using in ‘real time’. The observations involved:

1. Both independent observers agreed to observe the same ‘target child’ at the same time.
2. Once the ‘target child’ was chosen, a clock was started.
3. Each independent observer carried out the observation at the same time, however there was no discussion or comparison whilst the undertaking it
4. Different children were used for each of the 11 observations

In total the two independent observers undertaking 11 observations lasting between 2 minutes and 12 seconds to 10 minutes. To test the reliability of the PCOM used by each independent observer, an inter-rater reliability statistical test was undertaken using Cohen’s Kappa (k). Initial inter-rater reliability, or what Shenton (2004, p. 68) terms “member checks” is a like for like statistical test comparing a like for like score and therefore enables a like for like comparison between two independent raters. McHugh (2012) account of Cohen’s Kappa (k) describes a score from -1 to +1 is obtained, where +1 is a perfect agreement between each rater (McHugh, 2012). Landis and Koch (1977) provide a guide to the Cohen’s Kappa value where < 0 is a poor agreement, 0.0 – 0.20 is a slight agreement, 0.21 – 0.40 is a fair agreement, 0.41 – 0.60 is a moderate agreement, 0.61 – 0.80 is a substantial agreement and 0.81 – 1.00 is an almost perfect agreement.

The data collected by the two independent observers was collected and analysed by a third member of the research team for analysis where a second SKYPE meeting was set up to discuss the findings.

## **Results**

Table 1 shows how each independent observer observed who issued the play cue to form a play cycle and how many play cues were issued within an established play cycle.

[Insert Table 1 Here]

Cohen's Kappa ( $k$ ) was undertaken for the following: Who issued the play cue (target child, non-target child or adult); number of play cues issued by the target child in established play cycle; number of play cues issued by the non-target child in established play cycle and number of play cues issued by the adult in the established play cycle. The results found:

- Initial source of play cue Kappa 0.53 ( $p < 0.01$ , 95% CI (1.01, 0.11) indicates a moderate inter-rater agreement
- Number of play cues in established play cycle from target child Kappa 0.88 ( $p < 0.00$ , 95% CI (1.1, 0.66) indicates an almost perfect agreement
- Number of play cues in established play cycle from non-target child Kappa 0.67 ( $p < 0.00$ , 95% CI (0.96, 0.38) indicates a substantial agreement
- Number of play cues in established play cycle from an adult Kappa 0.74 ( $p < 0.00$ , 95% CI (1.05, 0.43) indicates a substantial agreement

Each independent observer recorded the initial play cue whether from the target child, another child or the adult. The response to the play cue, the play return was recorded which together formed an established play cycle. The Play Cycle was provided with a name or label (play frame). Where established Play Cycle were formed, play cues were continually recorded from the target child, another child or adult. How the play cycle finished (annihilated) was recorded. Table 2 compares how the initial play cue, play return, play frame and annihilation were independently recorded.

[Insert Table 2 Here]

As with Table 1, there was a high level of agreement on the data collected. Where differences did occur were in the PCOM 1, 7 and 9 (see Table 1 and Table 2). For Play Observation 1, one observer had the child initiating the play cue (approach with links), whilst the other had the adult pre-school

worker issuing the cue (offered a necklace). For both PCOM 7, although the return of both the adult and child resulted in the play cycle of building blocks together, there was a difference in who issued the play cue. For Play Observation 9, there appears to be two different play cycles being recorded. Looking at the data, observer 1 recorded a sword fight, whilst observer 2 had the adult and child building blocks. The explanation here is the play cycle recorded by observer 1 was stopped by the adult, and the result was the child and adult then engaged in a different play cycle, recorded by observer 2.

Annihilation is where “the play has finished where an element of the Play Cycle, or the play frame has no interest to the child” (reference withheld, p. 11). Table 2 clearly shows for most play observations the child decided to finish their interest in the play cycle by walking away. There were examples of the adult finishing the play cycle, for example play observations 4, 9 and 10. For play observation 9 and 10, clearly the adult was not comfortable with the way children were playing and intervened into the play cycle. This is what Sturrock and Else (1998) term ‘adulteration’. Adulteration is where the “play aims and objects of the children become contaminated by ... the wishes of the adult” (p. 93). Here the wish was not having cars being bashed, a lego® sword fight or to stop playing and tidy up.

The inter-rater reliability for the PCOM indicates good reliability as an observational tool between the two observers. This is shown in both Table 1 and Table 2, as well as the significant values for the Cohen Kapper (k). Although agreement was less when comparing the initial play cue to form the play cycle compared to the issue of play cues between the target, non-target and adult within the established play cycles, from table 1 this is indicated in Observation 1, 7 and 9. Here the disagreement was whether the target child or the adult initiated the first play cue and as one inter-rater observer stated “*At times it was somewhat hard to hear or see what was happening from our placement in the observation booth*”. As play cues can be issued both verbally and non-verbally, there is the potential to not always see the play cue when first using the PCOM, however like with most observational tools, with practice the observation of play cues becomes easier. This was reflected in the comment from the two inter-rater observers:

*“The PCOM observational tool did take some time getting familiar with how to use it. The live (real time) observations with 3 years olds happened very fast, and was a little overwhelming, but went much smoother with experience”*

*“The PCOM took a little time to get used to – experience helped! The live observations with the children moved very quickly – even once somewhat experienced using eh PCOM, the observations moved quite quickly”*

Although one observer stated *“at times others (children, adults, etc.) would be involved for varying amounts of time and for varying degrees of involvement. Learning how to best account for everyone’s involvement was tricky from time to time, especially when involvement did not amount to much”*, the high inter-rater agreement for the issuing of play cues by all involved (children and adults) does suggest the PCOM does provide some consistency and reliability to record not just the involvement of the target child, but both the non-target child and adult when playing together. The issuing of play cues within established play cycles are important as it relates to the element of ‘loop’ and can provide an indication of who is dominating the play cycle. For example, if the adult is issuing play cues, this can suggest that maybe they are dominating and taking over, whether consciously or unconsciously.

The results from this observational study with pre-school children has demonstrated that the PCOM can be used in ‘real time’. This has positive implications for supporting the process of play from both a practitioner and educational perspective.

## **Discussion**

The theory of the Play Cycle was first developed as a theory for playwork (Sturrock & Else, 1998) although as the authors stated, the concept can be used in any context with any adult who works with or supports children’s play. The initial pilot of the Play Cycle Observation Method (PCOM) used video footage of children aged between 5 and 12 years playing in a playwork context, although the

participants who took part in this pilot study did not all have playwork experience. This study on using the PCOM in 'real time' focused on 3-year-old children in a pre-school environment in Oklahoma where playwork is not known or considered as a practice. The results from this study indicate that the Play Cycle is not a theory to be confined to playwork, it can be used across different contexts and professions. In addition, the recording of play cycles can be used with children as young as 3 years old.

The focus on the process of play, rather than the outcome could aid the pre-school and early years workers in respect of using a play-based approach to their work. As Danniels & Pyle (2017) stated in play-based learning:

two different types of play have been the primary focus: free play, which is directed by the children themselves, and guided play, which is play that has some level of teacher guidance or involvement (p. 7).

Play-based learning requires the balance of child-led and adult-led play. For the professional practitioner, the recording of children's play cues and mapping their Play Cycles has the potential for them to focus more on child-led play, supported by the adult rather than directed by the adult where the process of play is central to play observations.

The use of the PCOM across different contexts and professions was highlighted by the two inter-rater observers where one stated "*I think you look at the observations through your personal 'lens'*" whilst the second observer commented "*my experience and 'frame' certainly affected the way in which I saw things take place*". Both these comments refer to the importance of practitioner reflective practice (Kolb, 2015), as suggested by one of the observers:

*“I teach the student on how to teach and work with young children. I think we have to start using more ‘reflective practice’ and ‘peer mentoring’ to help students learn when and how to be involved in the play cycle”*

This use of reflective practice supports not only the practitioner, here the pre-school worker but this can relate to any professional working in a play context, but also how and where children play, focusing on play behaviours (reference withheld) rather than what is often termed ‘inappropriate behaviour’. For example, a study on playworkers understanding of the adult role in the Play Cycle (reference withheld) found playworkers considered “behaviours which might once have been regarded as inappropriate were re-framed by the Play Cycle theory as normal and acceptable play behaviours, which lessened the need for adult intervention” (p. 8). Interestingly a follow up study with childcare workers considering their role in the Play Cycle had more consideration of using this theory to meet an educational outcome, rather than supporting children in their play as is the main role of playworkers. In this study, an adult intervened in the 9<sup>th</sup> and 10<sup>th</sup> play observations where children were playing pretend swords and knocking cars respectively. Rather than stopping the play (annihilation) by the adult, focusing on the process of play could re-frame the Play Cycle, or just leave alone if children are just playing (pretend sword fighting) which may be the adult perceived to be ‘inappropriate behaviour, rather than focusing on play behaviour. For example, a child may issue a high number of cues that may not be picked up and not all play cues will form Play Cycles. For the practitioner or student, knowing this information from the PCOM can help support children’s play, particularly in group settings where children who issue a high number of play cues may need the adult to provide the play return to help establish a play cycle if other children are ignoring or not interpreting them as play cues. It is not the number of play cues that are important. It is the number and length of the Play Cycle as a response from the play cue that engages children in play that is important for the practitioner and student.

As outlined in the introduction, the PCOM focuses on the process of play, not specific types of play or play-based assessment (outcomes). The findings from this study of the PCOM in ‘real time’ strongly

recommends that not only does it support children in their chosen play but provides a reflective tool for the practitioner. Reflective practice is important, not only for the practitioner, but the student working with children through their play (Kilvington & Wood, 2010). The PCOM provides a framework to record children's Play Cycles and can be used both individually and as a group training exercise. For example, if the PCOM is undertaken where the practitioner or student observe the same child, then the how the Play Cycles have been recorded can provide reflective discussion, based on the play cues, play returns and Play Cycles recorded. The addition of the process of play with more play-based assessments can provide aspects of play that may be lost if the focus is on outcomes. For example, it enables the practitioner to reflect on their level of intervention where playworkers (reference withheld) and childcare workers (reference withheld) stated the Play Cycle had changed their play practice by becoming more observant and reflective. To stand back and reflect on the process of play as it happens may result in less Play Cycles being annihilated (finished) by the adult.

Limitation to the PCOM include the need for the observers to have a chance to practice using them. This is where the use of video footage would be beneficial still prior to using in 'real time'. This was also a small sample of 11 observations. However, even with the small sample size, the data recorded by both observers achieved significant inter-rater reliability for the PCOM to be used as an observational tool. The PCOM, with its focus on the process of play rather than as an outcome play-based measure has the potential to support professional practice across many disciplines in play. It can help support new playwork, childcare, early years and teaching staff who could use the PCOM as part of their education and training. For the experienced practitioner, the PCOM can be used in respect of their continuing professional development with regards to reflective practice. It could also be used by trainers and lecturers as a teaching aid to demonstrate the process of play. As the pre-cue cannot be observed, there needs some consideration that sometimes what is going on inside a child's head may be interpreted differently from what an adult observer assumes. However, if group reflection is being used, this can be a basis for discussion on the number and nature of play cues and play returns observed.

## **Conclusion.**

The Play Cycle Observation Method (PCOM) as a recording tool for observing the process of play is a reliable method when used with either video recordings of children playing (reference withheld).

This study in a pre-school environment has shown the PCOM is also a reliable observational tool when used in 'real time'. The benefits of the PCOM not only can shows how we can support children's play by focusing on the play cue, play return, play fame and annihilation, it can also be used by the student learning about play and the professional practitioner in respect to reflective practice. The PCOM can also be used as a training tool for trainers and lecturers teaching play.

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