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DILEMMAS AND OPTIMIZATION PATHS IN THE IMPLEMENTATION OF GAME-BASED KINDERGARTEN CURRICULUM

Qin Li *

Logistics Support Department,Yancheng Teachers University.
* Corresponding Author

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ABSTRACT

Game-based curriculum is an important pathway through which kindergartens implement the requirement that play be the basic activity. Its quality depends not only on the number and forms of play activities, but also on whether children can explore autonomously and whether teachers can provide appropriate support in response to children's performance. Some kindergartens still face insufficient connection between play forms and curriculum content, difficulty in reconciling teacher guidance with children's autonomy, and play observation that rarely translates into curriculum adjustment. These problems relate to teachers' understanding of play and learning, curriculum organization, professional support and kindergarten assessment mechanisms. Drawing on preschool education policy and related research, this paper analyses these dilemmas from the perspective of the process quality of care and education and proposes improvement paths: adjusting curriculum arrangements in line with children's play experience, strengthening teachers' observation and response capacity through school-based teaching research, using process assessment for curriculum improvement, and improving play time, space, materials and home-kindergarten communication. Game-based curriculum must ultimately be realized in the concrete activities and teacher-child interactions of children's daily lives.

Keywords: Kindergarten Curriculum; Game-Based Curriculum; Process Quality of Care and Education; Free Play; Teacher-Child Interaction

1 INTRODUCTION

Play is an important way for young children to understand their surroundings, accumulate direct experience and develop social relationships. By manipulating materials, exploring the environment, negotiating with peers and making repeated attempts, children gradually build their understanding of things. Unlike learning arrangements in which adults pre-determine the steps and outcomes, play is open-ended: its content and course change with children's interests, prior experience and peer interaction. Play therefore offers children opportunities for autonomous choice and expression, and gives teachers an authentic setting in which to learn how children learn. Pyle, DeLuca and Danniels' scoping review of play-based pedagogy in kindergartens shows that playful teaching takes several organizational forms, and that its educational value depends on how children participate, how teachers support them and how curriculum objectives are handled [1].

Chinese preschool education policy has consistently stressed the foundational position of play. The Guidelines for the Learning and Development of Children Aged 3-6 advocate learning grounded in direct experience, supported through direct perception, hands-on operation and first-hand experience. The Guidelines for the Quality Assessment of Kindergarten Care and Education treat the process of care and education, activity organization and teacher-child interaction as key elements of quality assessment, and emphasize naturalistic observation of everyday practice. The Preschool Education Law of the People's Republic of China further stipulates that kindergartens shall take play as the basic activity. These requirements concern not only the arrangement of play activities but also children's actual experience in daily life and the ways teachers organize and adjust activities in response to children's performance.

In practice, some kindergartens have created more play opportunities by extending free play time, enriching materials in learning corners and adjusting daily routines. Yet more play does not necessarily mean better curriculum. Some activities adopt competition, challenge games or dramatic scenarios while content, steps and outcome standards remain pre-determined by teachers, so children mainly complete given tasks. In other classes free play is scheduled but sustained observation and support are lacking, and interests arising during play rarely enter later curriculum. Game-based curriculum therefore cannot be achieved through changes in activity form alone; it also requires adjusting curriculum organization and teachers' modes of support. Whether a curriculum is genuinely game-based depends less on how lively an activity looks than on whether children's own intentions have a place in it.

Research has examined the relationship between playful teaching and children's learning from several angles. Pyle and Danniels show that teachers' understanding of play and learning shapes how they organize activities and how far they intervene [2]. Skene et al.'s meta-analysis finds that guided play benefits some early learning domains, though effects vary with content and task [3]. Weisberg et al. explain that teachers can guide learning through environmental design and moderate support while preserving space for active exploration [4]. Building on this work, this paper examines implementation problems in curriculum organization, teacher guidance, play observation and kindergarten support, focusing not on the forms play takes but on what children actually experience and on how teachers and kindergartens can sustain that experience.

2 GAME-BASED CURRICULUM AND THE PROCESS QUALITY OF CARE AND EDUCATION

2.1 Basic Connotations of Game-Based Curriculum

Game-based curriculum is not a matter of packaging knowledge into games, nor of adding play segments to an existing curriculum. It means organizing the curriculum according to young children's learning characteristics so that play becomes a pathway through which they gain experience, express ideas and solve problems. Kindergartens have educational objectives, but their attainment should not depend entirely on pre-set steps and uniform outcomes; children's interests, choices and interactions can equally shape curriculum content and its course. What distinguishes game-based curriculum is therefore the position children occupy in decision making, not the label attached to an activity.

Child-initiated play differs from guided play in which teachers create contexts and offer support. In free play children choose materials, companions and ways of playing, and outcomes remain uncertain; guided play carries a comparatively explicit learning intention that teachers pursue through materials, questions or environmental arrangement. The two are not mutually exclusive and neither can replace the other. Pyle and Danniels place play-based learning on a continuum from child-directed to teacher-directed forms and argue that teachers must decide their mode of participation according to objectives and children's performance [2]; research on guided play likewise shows that an explicit intention can coexist with active exploration, provided the teacher preserves room for children's choice and thinking [4]. In block play, a teacher who attends only to the finished product overlooks the experience gained through manipulating materials, solving problems and negotiating; one who attends to how children pose questions and revise their actions can judge their interests and decide whether to add materials, adjust the setting or offer prompts. Learning in play spans language, number and spatial understanding as well as cooperation and emotional regulation, so teachers must plan according to developmental needs while remaining alert to what emerges, avoiding both fixed answers and neglect.

2.2 Assessment Requirements for Process Quality in Care and Education

Preschool quality is usually discussed at two levels. Facilities, staffing and materials form structural conditions that secure basic provision, whereas activity organization, teacher-child interaction and children's participation reflect process quality. Ha, Tham and Hurley's systematic review of Australian early childhood provision treats children's actual experience in the setting, and interaction with teachers, as central to process quality [5]. The distinction matters because better facilities alone do not alter what children encounter day by day.

Assessing game-based curriculum from this angle cannot be reduced to counting play time, materials or activities. It requires asking whether children can choose materials and companions, whether they can pursue questions of interest over time, and whether teachers respond to their actual needs. An orderly, well-attended setting is not by itself evidence of good play; what matters is whether children take part in decisions, try different approaches and receive help when difficulties arise. Process quality also shows in whether play experience carries forward: interests formed in one episode may continue in later corner activities, group sharing or other play, and by observing changes and adjusting materials, space and arrangements teachers allow that experience to enter later stages of the curriculum. Pyle et al.'s assessment model links objectives, types of play and assessment practice, stressing that assessment runs through teaching rather than being conducted afterwards [6].

3 MAIN DILEMMAS IN THE IMPLEMENTATION OF GAME-BASED KINDERGARTEN CURRICULUM

3.1 Insufficient Connection Between Play Forms and Curriculum Content

Changing the form of activities is easier than adjusting how the curriculum is organized. Some teachers turn knowledge drills into competitions, challenge games or performances; activities look livelier, yet content, steps and criteria remain teacher-determined, and children rarely choose their own path or alter its course. Such activities carry the formal features of play while remaining close to task-based instruction. A related problem is the gap between free play and the planned curriculum: group instruction follows set themes while corner, role and outdoor play occupy separate periods, so questions arising in play do not enter later teaching. When children keep testing ways of connecting blocks, a teacher who treats this only as free play misses the experience of stability, spatial relations and division of labour involved, and play becomes a segment outside the curriculum rather than a source of it. Once play serves as a delivery format, its appearance is retained while the exploratory part of it is removed.

Pyle et al. note that play-based pedagogy contains different educational orientations and that teachers must handle the relationship among child development, subject learning and play autonomy [1]. Game-based curriculum can therefore neither convert all play into a tool for completing objectives nor separate play from curriculum altogether. The difficulty in current practice lies mainly in the absence of a habit of adjusting curriculum according to what children do in play, which leaves plans disconnected from children's real experience.

3.2 Difficulty in Reconciling Teacher Guidance with Children's Autonomous Exploration

How teachers intervene directly shapes children's room for action. To keep activities smooth, some specify in advance how materials are used, the sequence of play and the requirements for the product, and require children to return to the original arrangement when they try something new. Order is preserved, but opportunities to decide, experiment and solve problems shrink. The opposite pattern is equally common: teachers equate respect for autonomy with near-total non-intervention and seldom respond when children face difficulties, conflicts or material shortages, so activities are abandoned and experience cannot continue. Non-intervention does not guarantee exploration; when an activity is persistently blocked, timely support may be what allows play to resume.

Skene et al.'s meta-analysis finds guided play advantageous in some content, such as early mathematics and shape knowledge, with results varying across domains [3], which suggests that no single mode of involvement suits every situation. When children can negotiate and keep trying, teachers should allow time; when children seek help, play stalls or safety is at risk, they should respond promptly, whether by adding materials, posing questions or demonstrating. Such judgments depend on how well teachers understand children's behaviour; deciding on involvement only by whether an activity runs smoothly and children comply produces fixed patterns that cannot accommodate different ages and levels of experience.

3.3 Lack of Effective Connection Between Play Observation and Curriculum Adjustment

Observation is how teachers come to understand play and judge developmental needs, yet in some kindergartens records remain documentation: what was played, how long it lasted, what was produced, with little analysis of how children posed questions or tried to overcome difficulties. The same behaviour can mean different things: children repeatedly shifting blocks may be seeking stability or exploring spatial combinations, and a record of repeated movement alone cannot tell a teacher whether to provide other shapes or arrange discussion. The value of observation lies not in its volume but in whether behaviour is read alongside children's language, history and peer interaction.

Research has begun linking observation to assessment. Pyle et al. propose a framework combining objectives, types of play and assessment practice [6]; Montoya-Fernandez et al.'s review of developmental play-based instruments shows that existing tools address cognition, social-emotional and motor domains, and that selection must match children's characteristics and the purpose of use [7]; Graue et al.'s EP3 tool identifies teachers' supporting behaviour through classroom observation [8]. Observation should therefore not stop at description but help teachers understand play and

adjust support. Where records serve inspection, display or archiving rather than curriculum discussion, teachers cannot track shifts in interest, and process assessment degenerates into extra paperwork.

3.4 The Influence of Kindergarten Management Conditions and Parental Expectations

Game-based curriculum needs continuous time, suitable space and materials children can handle independently, since experience in play forms through repeated attempts and adjustments. When the daily schedule is tightly packed and play is often interrupted, children cannot carry activities forward; the variety, quantity, layout and access rules of materials further limit their choices, so that even plentiful materials under restrictive rules fail to support exploration. Time and materials are not merely logistical matters; they set the limits of what children can attempt.

Professional support matters as well. Besides organizing activities and caring for children, teachers handle home-kindergarten communication, environment preparation and administrative work, while observation, analysis and curriculum adjustment all take time. If teaching research centres on demonstration lessons, lesson-plan inspection and tidying materials, teachers have no occasion to discuss authentic play cases or reflect on their guidance; Egert et al.'s meta-analysis finds that in-service development improves teacher-child interaction quality, especially where reflection and individual support are included [9]. Parents' views add further pressure: visible outcomes such as literacy, calculation and craft products are easier to judge than the language, negotiation and problem solving that play involves, and communication built mainly on photographs and finished works reinforces that preference, leaving teachers to absorb the resulting expectations.

4 OPTIMIZATION PATHS FOR GAME-BASED KINDERGARTEN CURRICULUM

4.1 Adjusting Curriculum Arrangements in Line with Children's Play Experiences

Curriculum planning should weigh developmental requirements against children's real experience. Teachers need to know children's prior knowledge, interests and recent activities, while leaving room for adjustment; the questions children return to in play, materials they reuse and topics they discuss with peers can all feed later content. Through observation teachers judge what is being explored and then decide whether to add materials, rearrange space or organize sharing. Free play should preserve children's right to choose materials, companions and ways of playing, with teachers providing conditions rather than prescribing steps and outcomes; guided play with an explicit intention may set problems, offer materials or create contexts while allowing different routes to the result, since research indicates that support and autonomy can be coordinated case by case [2-3]. Continuity also matters: interests from corner play can extend into later play, sharing or thematic work, and group experience can be applied in free play, so plans should keep necessary stability while responding to new questions. Reviewing the weekly plan against what has been observed in play is one practical way to hold that balance.

4.2 Enhancing Teachers' Play Guidance Capacity Through School-Based Teaching Research

Observation and guidance capacity grows through sustained practice in real settings. Kindergartens can take concrete problems from daily play as the content of teaching research, discussing what children's behaviour means, when to intervene and whether materials or the environment need change; analysing authentic episodes exposes problems in on-the-spot judgment more effectively than displaying polished designs. Representative cases can be examined with video, records and children's works: when building plans change repeatedly, is the cause difficulty with materials or an attempt at new structural relations; when role play produces disagreement, should time be allowed for negotiation or help offered? Such analysis builds a working style in which observation, interpretation and response connect. Since one-off training is insufficient, and teachers' stated beliefs do not always match their practice [9-10], research should test understanding against cases. Principals should secure regular discussion time and reduce repetitive inspection, and evaluate research by whether teachers understand children's needs and support them appropriately rather than by novelty of form.

4.3 Bringing Process Assessment to Bear on Curriculum Improvement

Assessment should centre on children's authentic play and teachers' supporting behaviour. Rather than producing large quantities of records, teachers can select episodes of analytical value and note the problems children met, methods they tried, peer interactions and their own responses, then interpret them against prior experience to judge whether materials, environment or plans need change. Findings should enter discussion rather than stay in individual files: colleagues can compare interpretations of the same behaviour, weigh different kinds of support and keep observing, and longer themes can be followed across time to see whether inquiry and problem-solving strategies shift. Frameworks linking objectives, play and assessment [6], reviews of play-based instruments across developmental domains [7] and observational tools covering teacher behaviour [8] all indicate that assessment attends both to what children gain and to whether teaching creates conditions for it. Records kept for external inspection and records kept for teaching are different documents, and conflating them is a common reason why observation loses its point. Kindergartens can fold

classroom observation and regular self-assessment into quality management, using results to adjust provision and support rather than to rank teachers or classes; reducing duplicated documentation and formalistic checks frees time for observation and improvement.

4.4 Improving Kindergarten Support Conditions and Home-Kindergarten Communication

Kindergartens should arrange the daily routine around children's needs, giving free play ample and continuous time and cutting unnecessary transitions and waiting. Materials should suit children's ages and interests, with more open-ended items that can be combined, modified and used in several ways so that children can take them independently; space should accommodate construction, role play and outdoor exploration. Management must protect time for observation, teaching research and adjustment, reduce repetitive affairs unrelated to curriculum, and specify risk-management requirements that leave teachers room for professional judgment, since safety work means controlling real risks rather than removing all exploration. Communication with families should make play legible: using concrete cases, teachers can explain how children voiced ideas, negotiated and tried to solve problems and what support was offered, and open days and everyday exchanges can be built around real activities so that parents see thinking and change, not only products and photographs. Play and knowledge learning are not opposed; what matters is whether the curriculum suits children's learning characteristics. Materials and space belong to the pedagogy itself rather than forming the background against which teaching happens.

5 CONCLUSION

The quality of game-based curriculum cannot be judged by the number, forms or visual effect of activities. It depends on whether children have genuine opportunities for autonomous exploration, whether teachers support them appropriately, and whether experience formed in play enters later curriculum. Current problems cluster around weak links between play forms and curriculum content, inadequate coordination of guidance and autonomy, observational assessment that does not reach curriculum decisions, and thin support conditions and family communication, all of which involve teachers' understanding of play and learning and are shaped by arrangements, professional support and management. Improvement therefore requires adjusting plans to children's real experience, building observation, interpretation and response capacity through school-based research, and treating process assessment as a basis for adjustment, with guaranteed time, space and materials. Game-based curriculum neither converts all activities into games nor reduces teachers' responsibility; it develops more suitable organization and interaction on the basis of respect for autonomy, and only when realized in the actual processes of children's daily lives does play become a genuine pathway for learning and development. Such change is slow and uneven, and it depends on whether kindergartens treat teachers' learning as part of the work rather than as an addition to it.

STATEMENTS ON COMPLIANCE WITH ETHICAL STANDARDS

Disclosure of conflict of interest

The authors declare no conflicts of interest regarding this manuscript.

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