

IMPROVING THE METHODOLOGY OF LESSON DESIGN BY FUTURE TEACHERS OF ENGLISH ON THE BASIS OF MODERN PEDAGOGICAL TECHNOLOGIES

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Abstract. The article substantiates directions for improving the methodology by which future teachers of English are prepared to design lessons on the basis of modern pedagogical technologies. The author proceeds from the thesis that the prevailing practice of teaching lesson planning as the completion of a prescribed template produces a characteristic professional deformation: the plan is constructed as a sequence of attractive activities or as a route through the content of the textbook, while the learning outcome, the evidence of its attainment and the internal logic connecting them remain undefined. Lesson design is accordingly interpreted as a projective activity that proceeds in the reverse direction — from the intended result, through the evidence that would demonstrate it, to the selection of technologies and the construction of the sequence of stages. Relying upon theoretical analysis, the comparative method, pedagogical modelling and the systemic approach, the study correlates L. Shulman's conception of pedagogical content knowledge, the backward design of G. Wiggins and J. McTighe, J. Biggs's principle of constructive alignment, the revised taxonomy of educational objectives, R. Gagné's theory of instructional events, the findings of P. Black and D. Wiliam on formative assessment and the TPACK framework of P. Mishra and M. Koehler. A four-component model of design competence, a seven-step design algorithm and an alignment matrix as a diagnostic instrument are proposed, and the conditions of implementation in the pedagogical higher education of Uzbekistan are determined.

Keywords: lesson design, backward design, constructive alignment, learning outcomes, taxonomy of educational objectives, instructional events, formative assessment, TPACK, pedagogical content knowledge, pedagogical technologies, future teacher of English, design competence.

INTRODUCTION

The lesson plan is the central professional artefact of a teacher: it is in the plan that subject knowledge, methodological preparation and the understanding of a particular group of learners are transformed into a projected sequence of events. It is therefore natural that the preparation of future teachers devotes considerable attention to planning. The character of this attention, however, deserves critical examination. In the prevailing practice of pedagogical higher education, the student is taught above all to complete a prescribed template — to fill in the headings of objectives, equipment, stages and timings — and the resulting document is evaluated according to the completeness of its sections rather than according to the coherence of the learning process it models. The plan thus acquires the status of an administrative report submitted before the lesson, and the design of learning as an intellectual activity remains unformed.

The consequences of this substitution are manifested in two typical deformations of novice planning. In the first, the plan is constructed as a chain of attractive activities whose connection with any defined

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result is not established: the lesson is interesting, the pupils are occupied, and what precisely they are able to do at its conclusion that they were not able to do at its beginning cannot be stated. In the second, the plan is constructed as a route through the material of the textbook: the unit is covered, the exercises are completed, and the question of what has been learned is replaced by the question of what has been gone through. Both deformations share a single cause — the design begins from the means rather than from the end, and the end, if formulated at all, is formulated after the activities have been chosen.

The theoretical point of departure for overcoming this situation is L. Shulman's conception of pedagogical content knowledge. Shulman drew attention to the missing paradigm in research on teaching: the subject matter itself had disappeared from the study of teachers' competence, although what distinguishes a teacher from a specialist in the discipline is precisely the capacity to transform content into forms accessible to learners of a given age and preparation — through analogies, representations, examples and explanations that anticipate the difficulties characteristic of that content [9, p. 6–11]. Lesson design is the operational field in which pedagogical content knowledge is realised, and the inability to design is therefore not a technical defect of documentation but an indicator of an unformed professional knowledge base.

The procedural resolution of the problem is offered by the conception of backward design. G. Wiggins and J. McTighe proposed that design should proceed in three stages: the identification of the desired results, the determination of the evidence that would count as acceptable proof of their attainment, and only then the planning of the learning experiences and instruction that lead to them. They designated as the twin sins of conventional planning the activity-oriented design, in which engaging tasks are assembled without a defined result, and the coverage-oriented design, in which the textbook substitutes for the curriculum [10, p. 13–21]. The correspondence between these two errors and the deformations of novice planning described above is exact, which makes backward design the natural methodological foundation for the preparation of future teachers.

The same requirement is formulated in systemic terms by J. Biggs in the principle of constructive alignment. A teaching system is constructively aligned when the intended learning outcomes, the teaching and learning activities and the assessment tasks are mutually consistent, that is, when the activities require the learners to perform the very operations named in the outcomes, and when the assessment elicits those same operations [2, p. 347–354]. Misalignment is not a minor imperfection: learners orient themselves towards the assessment, and where the assessment demands recall while the outcome proclaims the ability to communicate, the declared outcome is not attained regardless of the quality of the intervening activities.

The instrument for formulating outcomes with the necessary precision is provided by the revised taxonomy of educational objectives, which replaced the single hierarchy of the original version with a two-dimensional table combining the knowledge dimension — factual, conceptual, procedural and metacognitive knowledge — with the dimension of cognitive processes, from remembering to creating [1, p. 27–41]. Applied to the English lesson, this table performs a diagnostic function: it makes visible the typical concentration of novice objectives in the lower cells, where the pupil recalls vocabulary and recognises grammatical forms, and the corresponding absence of objectives requiring application, analysis or creation — that is, of objectives connected with the actual use of the language.

The internal architecture of the lesson and the mechanisms of its functioning are described by several further conceptions that the future designer must master. R. Gagné, L. Briggs and W. Wager set

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out the sequence of instructional events — from gaining attention and informing the learner of the objective, through stimulating recall and presenting the stimulus material, to eliciting performance, providing feedback and enhancing retention and transfer — which furnishes a checklist for the internal logic of a lesson stage [6, p. 189–204]. P. Black and D. Wiliam demonstrated on the basis of an extensive body of research that the strengthening of formative assessment produces substantial gains in learning, particularly among lower-attaining pupils, provided that feedback informs the learner about how to improve rather than merely about his position relative to others [3, p. 7–12]. P. Mishra and M. Koehler, in turn, established that the productive use of technology presupposes not an additive combination of technical skill with teaching experience but the formation of technological pedagogical content knowledge at the intersection of the three domains [8, p. 1025–1029].

In the conditions of Uzbekistan these considerations acquire additional significance in connection with the renewal of the models of university preparation of teachers and the modernisation of the content of pedagogical education [7, p. 325–328], as well as with the formation, through the system of continuous education, of the professional and worldview maturity upon which independent design activity depends [4, p. 314–316; 5, p. 10–13]. The aim of the present article consists in substantiating directions for improving the methodology by which future teachers of English are prepared for lesson design on the basis of modern pedagogical technologies. The novelty of the work lies in the construction of this methodology around the reversal of the habitual order of planning and in the proposal of an alignment matrix as an instrument for the diagnosis of design errors.

METHODS AND MATERIALS

The study relies upon the theoretical analysis and synthesis of research in the fields of instructional design, the taxonomy of educational objectives, formative assessment and the integration of technologies into teaching. The comparative method has been applied in order to correlate the principal models of design with the specific requirements of the foreign-language lesson. Pedagogical modelling has been used to construct the structure of design competence, the algorithm of design and the diagnostic instrument proposed in the article. The systemic approach has made it possible to consider the formation of design competence in connection with teaching practice, with the system of assessment adopted in the school and with the professional conduct of the teacher educator. The material of the investigation comprises classical and contemporary works on pedagogical content knowledge, backward design, constructive alignment, instructional events and technological pedagogical content knowledge.

RESULTS AND DISCUSSION

The first result consists in a four-component model of the design competence of a future teacher of English. The diagnostic component comprises the analysis of the learners — their level, prior knowledge, typical errors and interests — and of the place of the forthcoming lesson within the broader sequence. The goal-setting component comprises the formulation of outcomes in observable terms, with reference to the cells of the taxonomy table and to the descriptors of communicative ability. The constructive component comprises the selection of pedagogical technologies corresponding to the type of outcome and the construction of the sequence of stages with the necessary internal logic. The evaluative-reflective component comprises the design of the evidence of learning, the formulation of criteria and the subsequent analysis of the enacted lesson against the intended design. The separation of these components is of practical significance, since the difficulties of students are concentrated almost entirely in the second and fourth, while instruction traditionally devotes most attention to the third.

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The second result consists in a seven-step design algorithm adapted to the foreign-language lesson. The first step is the formulation of the outcome in the form of an observable action of the pupil, preferably expressed as a can-do statement. The second is the determination of the final task in which this action is performed, which simultaneously constitutes the evidence of attainment. The third is the formulation of the criteria by which the performance of the final task will be judged, and their translation into language accessible to the pupils. The fourth is the identification of the linguistic and cognitive means required for the final task and of the gaps between these requirements and the current state of the group. The fifth is the construction of the sequence of stages leading to the final task. The sixth is the selection of the pedagogical technology appropriate to each stage. The seventh is the anticipation of difficulties and the preparation of differentiated support and of alternative variants.

The third result consists in the proposal of an alignment matrix as an instrument for the diagnosis of design errors. The matrix maps each formulated outcome against every stage of the lesson and every element of the assessment, and the student is required to indicate, for each cell, how the given stage contributes to the given outcome. The procedure makes visible three typical defects that remain concealed in a conventional plan. The first is the orphaned stage: an activity that contributes to no outcome and is retained merely because it is engaging. The second is the unsupported outcome: an outcome towards which no stage leads. The third, and the most consequential, is the cognitive discrepancy, in which the outcome is formulated at the level of application or creation while the final task requires only reproduction. The regular completion of the matrix converts the abstract requirement of alignment into a verifiable operation.

The fourth result concerns the criteria for selecting pedagogical technologies. The selection should proceed from the type of outcome rather than from the novelty or popularity of the technology. Where the outcome concerns the fluent use of language in communication, task-based instruction with a genuine information gap and a non-linguistic product is appropriate; where it concerns the integration of language with subject content, content-based approaches are appropriate; where it concerns the development of extended written or oral production, project technology is appropriate; and where it concerns the analysis of a professionally or socially significant situation, case technology is appropriate. The same principle governs the use of digital tools: the criterion is the specific affordance that the tool contributes at the intersection of content and pedagogy — the possibility of recording and comparing one's own speech, of obtaining an immediate collective response, of working with authentic corpora — rather than the fact of its use as such.

The fifth result concerns the embedding of formative assessment into the structure of the design. Assessment should be projected at the same stage as the outcome and not appended at the end of the plan. The design should therefore provide for intermediate points at which evidence of progress is gathered, for the communication of criteria to the pupils before the performance of the task, and for feedback directed at the process and at self-regulation rather than at the personality of the pupil or at a comparison with classmates. In the foreign-language lesson this requirement has a specific form: the teacher must decide in advance which errors will be corrected immediately, which will be collected for subsequent analysis, and which will be deliberately left untouched in the interests of fluency — a decision that belongs to the design and not to the improvisation of the moment.

The sixth result concerns the organisational conditions for forming design competence in the university course. The most productive form is the design workshop, in which students construct a design,

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exchange it for peer review conducted by means of the alignment matrix, revise it, enact a fragment, and then collectively analyse the discrepancy between the design and its realisation. The accumulation of designs together with their post-hoc analyses in a portfolio makes progress visible to the student himself. Two risks accompany implementation. The first is the restoration of the template: an alignment matrix introduced as an additional obligatory form rapidly becomes a ritual. The second is the conflict between university requirements and the expectations of the mentor teacher at the school, where the plan may be evaluated according to the completeness of its sections. The resolution of both risks lies in the coordinated preparation of mentors and in the assessment of designs by criteria of coherence rather than of form.

CONCLUSION

The analysis undertaken permits the following conclusions. First, the principal defect in the preparation of future teachers of English for lesson planning consists in the substitution of design by the completion of a template. A document evaluated according to the completeness of its sections does not require the designer to establish any connection between the intended result, the evidence of its attainment and the activities that lead to it, and the ability to construct such a connection constitutes the essence of design competence.

Second, the methodological foundation for overcoming this defect is the reversal of the order of planning. Design must begin from the formulation of the outcome in observable terms and from the determination of the evidence that would demonstrate it, and only then proceed to the selection of technologies and the construction of stages. The two characteristic deformations of novice planning — the chain of attractive activities and the route through the textbook — are both direct consequences of the habitual forward order.

Third, the requirement of constructive alignment admits of operationalisation and should not remain a declaration. The alignment matrix proposed in the article renders visible the orphaned stage, the unsupported outcome and the cognitive discrepancy between the outcome and the final task, and thereby converts the diagnosis of design errors into a procedure that the student is able to perform independently and to apply to the work of his peers.

Fourth, modern pedagogical technologies, including digital ones, should be selected according to the type of intended outcome rather than according to their novelty. The criterion for the inclusion of a technology is the specific contribution it makes at the intersection of content and pedagogy, and the formation of the capacity to apply this criterion protects the future teacher equally from technological scepticism and from the uncritical accumulation of tools.

Fifth, the formation of design competence requires an iterative organisation of the educational process — design, peer review by the matrix, revision, enactment, collective analysis — together with the accumulation of designs in a portfolio and the coordination of university requirements with the expectations of school mentors. The prospect of further research consists in the experimental verification of the proposed algorithm and matrix and in the development of criterion-based instruments for assessing the levels of design competence of future teachers of English.

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