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PARAMETRIC ALIGNMENT OF HYBRID INSTRUCTIONAL FORMS WITH A MOTIVATIONAL-EMOTIONAL CRITERION IN THE CREDIT-MODULE SYSTEM

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Abstract. Hybrid instructional forms are widely used in higher education, yet the proportion of contact and distance components is usually fixed by external circumstance rather than chosen on measurable grounds. This paper proposes treating the hybrid form as a set of four managed parameters and aligning their values with a measurable motivational-emotional criterion assessed before the module begins. Three form variants and an alignment matrix are presented, together with a five-step mechanism that closes the loop through module-level monitoring. The approach converts the motivational-emotional state of students from an uncontrolled source of assessment bias into an input parameter of instructional design.

Keywords: credit-module system; hybrid learning; blended learning; instructional form; motivational-emotional criterion; parametric alignment; assessment objectivity.

Introduction: A hybrid instructional form is an organisational arrangement in which the contact and distance components of the learning process are combined in a defined proportion [1]. In the practice of higher education in Uzbekistan such forms spread rapidly, driven largely by external circumstance — the compulsory adoption of distance technologies — rather than by pedagogical design. As a result the proportion of the two components is in most cases inherited rather than chosen: it reflects the conditions under which the arrangement first appeared, not the requirements of the learning outcome or the state of the student group.

This creates a specific managerial problem in a credit-module environment. The same module, delivered in the same form, produces different results for different students, and the difference is not attributable to their prior knowledge alone. A student who is able to plan independent work and to tolerate an assessment situation performs adequately under a distance-heavy arrangement; a student who is not able to do so does not, and the outcome recorded for that student measures adaptation to the arrangement rather than mastery of the content. The motivational and emotional state of the learner thus becomes a source of assessment bias.

The issue is not peripheral to quality assurance. European standards orient institutions towards demonstrating that their internal arrangements actually support the achievement of intended learning outcomes [7], which presupposes that the arrangements themselves are chosen on stated grounds. Motivation and emotion in learning are extensively studied, but predominantly as objects of research or as factors influencing outcomes. From a management perspective this is insufficient: a factor that has been identified but not measured cannot enter a managerial decision. The purpose of this paper is therefore to propose a mechanism by which the motivational-emotional state of a student group is measured before the module begins and used to set the parameters of the hybrid form in which that module is delivered.

The motivational-emotional criterion

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The criterion combines two components that are treated jointly for theoretical reasons. Self-determination theory holds that the stability of learning activity depends not on external incentives but on the satisfaction of the needs for autonomy, competence and relatedness [2]. Control-value theory holds that achievement emotions are formed at the intersection of the learner's perceived control over the situation and the value attached to the activity [3]. The two accounts converge on a single practical point: both perceived control and the sense of autonomy are shaped by how the learning process is organised — that is, by precisely the variable a manager can set.

The criterion is operationalised through six indicators, three per component, each scored on a three-point scale. The motivational component covers the link between the module and the student's professional purpose, autonomy in planning work, and persistence after failure. The emotional component covers the sense of control over the learning situation, anxiety in assessment settings (reverse-scored), and satisfaction with interaction in the group. The sum ranges from 6 to 18 points and defines three levels: low (6–9), medium (10–13) and high (14–18).

Two measurement conditions are essential. First, the entry measurement is taken once, before the module begins, and its result is never used for grading; if it were, students would answer strategically and the measurement would lose its meaning. Second, questionnaire data are cross-checked against behavioural records — submission times, resubmission counts, distribution of activity in the electronic environment — so that the criterion does not rest on self-report alone.

Hybrid form variants as managed parameters

From a management standpoint a hybrid form is described by four measurable parameters: the share of the distance component; the degree of synchronicity within that component; the periodicity of feedback; and the share of independent work that is externally structured. Setting these four parameters at different values yields three practical variants (Table 1).

Table 1

Hybrid form variants, their managed parameters and the corresponding criterion level

Parameter	Contact-led (A)	Balanced (B)	Distance-led (C)	What the parameter governs
Share of distance component	20–30 %	40–60 %	70–80 %	Volume of direct pedagogical influence
Degree of synchronicity	High: most of the distance part in real time	Medium: synchronous and asynchronous in equal measure	Low: predominantly asynchronous	Opportunity to work alongside the instructor
Feedback periodicity	Weekly	Fortnightly	At interim and final points of the module	Time elapsing before an error is corrected
Externally structured independent work	High: work divided into stages	Medium: two interim points	Low: planned by the student	Self-organisation demanded of the student

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Parameter	Contact-led (A)	Balanced (B)	Distance-led (C)	What the parameter governs
Corresponding motivational-emotional level	Low (6–9 points)	Medium (10–13)	High (14–18)	Input parameter for selecting the form

Source: developed by the author.

The variants differ from one another in parameter values, not in quality. This is a substantive methodological point: none of the three is superior in the abstract, and each is appropriate under particular conditions. The last row of Table 1 states the alignment rule in its simplest form: the lower the motivational-emotional level of the group, the higher the external structure required.

The alignment mechanism

Parametric alignment should be distinguished from individualisation and from differentiation. Individualisation designs a separate learning trajectory for each student; differentiation divides students by level and delivers different content to each division. Parametric alignment does neither: the content and the learning outcome remain identical for the whole group, and only the organisational parameters of delivery are adjusted. It is therefore feasible within the ordinary constraints of a department's workload.

The matrix in Table 1 is a rule for setting initial values, not a rigid assignment. In practice a group is not homogeneous, and alignment proceeds in two stages: the form variant is chosen from the distribution of levels within the group, and additional support points are then planned for students at the low level within that variant.

The mechanism operates in five steps:

1) before the module begins, the entry measurement of the motivational-emotional criterion is taken and the level distribution of the group is established;

2) the form variant is selected from Table 1 and the initial parameter values are fixed;

3) additional support points are planned for low-level students and announced in advance;

4) during the module, activity and responsiveness indicators are monitored; if deadline violations become widespread, feedback periodicity is shortened;

5) at the end of the module the outcome criteria are measured and the appropriateness of the chosen parameter values is evaluated; the conclusion becomes the initial value for the next module.

The practical value of steps four and five lies in the transition they establish. A recurring finding in studies of data use in higher education is that the binding constraint is not the collection of indicators but the absence of a route from indicator to decision [6]. Here the route is fixed in advance: a defined indicator value triggers a defined change in a defined parameter. Steps four and five thus connect the mechanism to module-level monitoring and close the loop: the form is not fixed once at the start of the module but adjusted from feedback within it, and the result of one module becomes the starting point of the next.

Effect on assessment objectivity

Five factors were identified as distorting assessment objectivity in a credit-module environment: unclear criteria; a mismatch between the learning outcome and the assessment task; unregulated proportions among assessment components; dependence on the instructional form; and the unaccounted motivational-emotional state of the student. The first four are organisational and are removed by organisational means — criteria are published, tasks are matched to outcomes, proportions are standardised. The transparency of assessment criteria is repeatedly identified as the point at which quality

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culture becomes perceptible to participants [4], and standardisation at the level of the individual learning outcome has been shown to be feasible across large numbers of courses and instructors [5].

The fifth cannot be removed in that way, because it belongs to the student rather than to the arrangement. The mechanism proposed here addresses it differently: rather than attempting to eliminate the factor, it converts the factor into a parameter. Once the motivational-emotional state is measured and used to set the form, the instructional arrangement is no longer a source of uncontrolled variation between students; it becomes a variable set in a known relation to a measured quantity.

Three indicators are proposed for empirical verification of this effect: the difference in assessment results across instructional forms; the change in the motivational-emotional level between the entry and final measurements; and the growth of the outcome criteria. It should be stated plainly that the mechanism does not claim to remove all deviation in assessment results — it addresses deviations of organisational origin, namely those arising from a mismatch between the form of delivery and the state of the learner.

Conclusion: The paper has proposed treating the hybrid instructional form as a set of four managed parameters rather than as a fixed arrangement, and aligning those parameters with a measurable motivational-emotional criterion assessed before the module begins. Three conclusions follow. First, the motivational-emotional state of students can be expressed as a value on a common 6–18 point scale and used directly in a managerial decision. Second, the alignment rule — the lower the level, the higher the external structure — provides a defensible basis for choosing a form variant, replacing the inherited proportion of contact and distance components. Third, because the mechanism is closed by module-level monitoring, the chosen parameters are revised from feedback rather than fixed for the duration of the course.

Implementation requires several conditions, of which the normative one is decisive: authority to alter the instructional form at module level must rest with the department or the module leader. Where that authority is held only at institutional level, parametric alignment cannot be carried out. Further work will focus on empirical verification of the alignment rule across fields of study whose learning outcomes differ in nature.

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