



Assessment of enabling conditions and proposed improvements to physical education courses at Saigon University

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Abstract

This study assesses enabling conditions and student demand and proposes improvements to physical education (PE) courses at Saigon University. Data comprised a survey of 1,250 students across four disciplinary clusters, consultations with 28 lecturers and experts, a facilities inventory, and a review of professional staff profiles. The results showed that 92.6% of students agreed or strongly agreed that the current athletics content should be replaced with music-based exercise ($M = 4.56$, $SD = 0.66$), all consulted professionals considered this replacement necessary or highly necessary. The most preferred electives were badminton (68.4%), swimming and water rescue (62.5%), pickleball (56.8%), and dancesport/aerobics (49.2%). However, the university has neither an athletics track nor a swimming pool, while its staff include one lecturer specializing in music-based exercise/dancesport and five lecturers holding national-level pickleball coach-referee certifications. The study proposes restructuring Course 1, retaining adequately supported sports, piloting pickleball and dancesport, and postponing swimming as a regular course until stable arrangements for facilities, safety, and equitable access are in place.

Keywords: Physical education, curriculum improvement, facilities, human resources, pickleball, music-based exercise, Saigon University

Introduction

University physical education not only contributes to health enhancement but also develops self-directed exercise competence, collaboration skills, and lifelong physical activity habits. In the context of university autonomy and outcome-based education, the quality of PE courses depends substantially on the alignment among objectives, content, teaching methods, facilities, staff capacity, and learner characteristics. When course content exceeds actual enabling conditions, implementation may become superficial, active participation may decline, and safety risks may arise.

Saigon University is a multidisciplinary institution encompassing teacher education, economics and management, engineering and technology, social sciences, and the arts. This diversity means that students' needs, preferences, and physical activity contexts are not homogeneous. Meanwhile, conducting running activities on hard-surface courts without an appropriate track, or routinely offering a course that depends on off-campus facilities, raises concerns about feasibility and equity of access.

Conversely, several emerging institutional strengths, particularly expertise in music-based exercise, dancesport, and pickleball, have not yet been fully translated into learning opportunities.

This study integrates survey data from 1,250 students with a resource inventory to avoid recommendations based solely on trends or on currently available conditions. Its objectives were to: (1) describe the facilities and human resources supporting PE; (2) analyze students' evaluations of Course 1

and their elective preferences; (3) identify factors associated with interest and course selection; and (4) propose a feasible course structure and implementation roadmap for Saigon University.

Theoretical Foundation and Analytical Framework

1. A condition-based approach to PE curriculum development

A curriculum is a system comprising objectives, content, teaching and learning organization, assessment, and resources. In PE, facilities, equipment, class size, and lecturers' expertise directly affect students' actual physical activity time. Curriculum improvement should therefore involve more than adding the names of sports; it must address four questions simultaneously: Can the course be delivered safely? Does the teaching staff have adequate competence? Do students have meaningful opportunities to participate? Can learning outcomes be measured?

2. Learner-centeredness and diversification of choice

Motivation to engage in physical activity often improves when learners experience autonomy, can choose activities suited to them, and perceive their own progress. At a multidisciplinary university, the elective portfolio should be sufficiently diverse without rigidly assigning sports by disciplinary cluster. Disciplinary clusters should be used only to inform needs analysis and communication; registration should remain based on students' interests, health status, schedules, and class capacity.

3. Criteria for evaluating improvement options

Table 1: Framework for assessing the suitability of sport modules

Criterion	Aspect considered	Operational indicator
Feasibility	Adequacy of facilities, equipment, and scheduling	Stable venue; sufficient equipment for groups; no routine dependence on off-campus facilities
Staff capacity	Expertise, certification, and capacity building	Core lecturers available; training plan and standardized materials in place
Safety	Activity surface, class density, and prevention procedures	Risk identification; medical procedures; exercise adaptation to health status
Educational value	Alignment with learning outcomes and self-directed exercise	Measurable knowledge, skills, fitness, and self-training competence
Accessibility and appeal	Choice, cost, and suitability	Student choice; reasonable cost; adaptations for those with movement limitations

Research Subjects and Methods

1. Research focus and scope

The research focused on enabling conditions, student demand, and the structure of PE courses at Saigon University. The survey sample comprised 1,250 students reportedly selected through stratification across four disciplinary clusters. The professional consultation group included 28 participants: 13 teaching staff members at SGU (11 full-time lecturers, one adjunct lecturer, and one teaching assistant) and 15 external experts. No intervention was conducted with students.

2. Research methods

The study employed questionnaire surveys, lecturer/expert consultation, document analysis, resource inventory, and professional-profile analysis. The student questionnaire comprised four sections: background information; five variables evaluating Course 1 (HP1_1-HP1_5); nine elective sports; and five influencing factors. Items were rated on five-point Likert scales. For elective sports, demand was defined as the combined percentage selecting level 4, 'Like,' or level 5, 'Like very much.' Because every student rated all nine sports, the percentages could total more than 100%. Descriptive statistics included frequencies, percentages, means, and standard deviations. In the expert report, the content validity index (CVI) was interpreted as the proportion rating an item suitable or necessary. The SPSS report also presented chi-square tests and multivariable regression; these findings were treated as indicative because the complete outputs required to verify assumptions, degrees of freedom, and model coefficients were unavailable.

3. Data-processing procedures and principles of interpretation

Data were standardized into four groups: sample characteristics, evaluation of Course 1, elective demand, and enabling conditions. Each option was classified into one of three categories: suitable for continuation, suitable for a conditional pilot, or currently unsuitable for regular delivery. Agreement was calculated as the combined percentage of 'Agree' and 'Strongly agree.' The original questionnaire confirmed a five-point scale; the summary report omitted the 'Strongly disagree' column, while the remaining four columns totaled 100%, so the level-1 percentage was inferred to be 0%. However, because some reported $M \pm SD$ values were not fully consistent with the rounded percentage distributions, these values were retained as reported and should be checked against the raw dataset before submission.

Results

1. Survey sample characteristics

The sample included 730 women (58.4%) and 520 men (41.6%). First-year students accounted for 38.4%, second-year students for 33.6%, and third- and fourth-year students for 28.0%. Distribution across four disciplinary clusters enabled needs to be described for different fields of study, although response-rate and sampling-frame information was unavailable for a full assessment of nonresponse bias.

Table 2: Distribution of the survey sample (N = 1,250)

Characteristic	Group	n	%
Gender	Women	730	58.4
	Men	520	41.6
Year of study	First year	480	38.4
	Second year	420	33.6
	Third and fourth years	350	28.0
Disciplinary cluster	Teacher education	385	30.8
	Economics and management	360	28.8
	Engineering and technology	285	22.8
	Social sciences and arts	220	17.6

2. Evaluation of Course 1 and demand for elective sports

Students identified three shortcomings in the current athletics content: 91.0% agreed or strongly agreed that running on concrete courts caused joint pain/fatigue or posed an injury risk; 87.0% reported long waiting times and

low movement density; and 84.4% considered the content stressful, fatiguing, and passive. Notably, 92.6% supported replacing it with music-based exercise, while 94.0% believed that this activity created an engaging atmosphere, improved physical fitness, and reduced stress

Table 3: Students' evaluations of Course 1 content

Item	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree*	M ± SD
Running on concrete causes pain/fatigue or injury risk	64.2	26.8	6.4	2.6	0.0	4.48 ± 0.72
Long waiting times and low movement density	58.6	28.4	9.2	3.8	0.0	4.34 ± 0.78
Causes stress, fatigue, and passivity	52.8	31.6	11.2	4.4	0.0	4.24 ± 0.84
Support replacement with music-based exercise	68.4	24.2	5.6	1.8	0.0	4.56 ± 0.66
Music-based exercise increases engagement, improves fitness, and reduces stress	71.2	22.8	4.5	1.5	0.0	4.61 ± 0.62

Note: Response categories are reported as percentages. *The 0.0% value was inferred because the four categories reported in the SPSS summary totaled 100%. M ± SD values were retained as reported and should be checked against the raw data because of minor inconsistencies with the percentage distributions.

For elective sports, the highest proportions of 'Like/Like very much' ratings were recorded for badminton (68.4%), followed by swimming and water rescue (62.5%), pickleball (56.8%), and dancesport/aerobics (49.2%). Preferences varied across clusters: teacher-education students prioritized dancesport/aerobics (68.8%); economics-management students showed strong interest in pickleball (66.7%); and engineering students reported higher preferences for basketball (56.8%) and futsal (58.2%) than the other groups. Because every student rated all nine sports, column percentages could exceed 100%.

Table 4: Percentage selecting 'Like/Like very much,' by disciplinary cluster (%)

Elective sport	University-wide	Teacher education	Economics-management	Engineering	Social sciences-arts
Badminton	68.4	72.5	74.2	58.6	65.9
Swimming and water rescue	62.5	64.2	59.4	61.1	67.7
Pickleball	56.8	54.0	66.7	51.2	53.6
Dancesport/aerobics	49.2	68.8	45.0	21.8	59.1
Volleyball	45.6	48.1	39.4	53.3	40.0
Table tennis	42.1	38.2	48.6	42.5	37.3
Basketball	38.2	29.6	36.7	56.8	34.1
Futsal	35.0	24.7	33.3	58.2	29.5
Yoga/gymnastics	32.4	44.2	35.6	11.9	33.6

3. Influencing factors reported in the regression analysis

The statistical report stated that the regression model yielded $R^2 = 0.642$, $F = 328.45$, $p < 0.001$. Sports grounds and facilities had the largest coefficient, followed by lecturers' professional competence, personal motivation/preferences,

safety, and compatibility with disciplinary characteristics. However, because the full Model Summary, ANOVA and Coefficients tables, dependent-variable definition, and multicollinearity diagnostics were unavailable, the coefficients below are presented as reported results and cannot yet be independently verified.

Table 5: Factors influencing interest and course selection

Factor	Reported coefficient	SE	t	p
Sports grounds and facilities	0.386	0.024	16.08	< 0.001
Lecturers' professional competence	0.242	0.021	11.52	< 0.001
Personal motivation and preferences	0.215	0.019	11.31	< 0.001
Safety and injury prevention	0.157	0.018	8.72	< 0.001
Compatibility with disciplinary characteristics	0.128	0.016	8.00	< 0.001

4. Lecturer and expert consultation findings

All 28 consultees considered replacing the current athletics content with music-based exercise necessary or highly necessary; all also rated university-wide delivery on campus grounds as feasible or highly feasible. Among the elective sports, music-based exercise/dancesport, pickleball, and badminton received the highest suitability

ratings. The focus-group discussion also produced unanimous agreement on marking multipurpose courts and 96.4% agreement on the music-based exercise professional-development plan. These high agreement rates should be interpreted within the limits of a purposively selected expert sample and are not representative of the entire professional community.

Table 6: Appraisal of the suitability of proposed sports (N = 28)

Sport	Highly suitable	Suitable	Conditional	M ± SD
Music-based exercise/dancesport	26 (92.9%)	2 (7.1%)	0	4.93 ± 0.26
Pickleball	25 (89.3%)	3 (10.7%)	0	4.89 ± 0.31
Badminton	22 (78.6%)	6 (21.4%)	0	4.79 ± 0.42
Volleyball and basketball	21 (75.0%)	6 (21.4%)	1 (3.6%)	4.71 ± 0.53
Table tennis	20 (71.4%)	7 (25.0%)	1 (3.6%)	4.68 ± 0.55
Futsal	18 (64.3%)	8 (28.6%)	2 (7.1%)	4.57 ± 0.63
Swimming and water rescue	15 (53.6%)	10 (35.7%)	3 (10.7%)	4.43 ± 0.69

Note: Mean scores were retained as reported in the summary. The scale and raw data should be checked before formal submission.

5. Current facilities and human resources

The inventory showed that the university's available spaces primarily support ball sports, racket sports, and group activities on flat courts. This is advantageous for modules

organized in stations or small groups but constrains athletics and swimming. The staff can sustain traditional sports and have also developed new expertise in pickleball and music-based exercise/dancesport.

Table 7: Current resources and implications for course delivery

Resource category	Current status	Implications for delivery
Human resources	13 staff: 11 full-time lecturers, one adjunct lecturer, and one teaching assistant	Core lecturers and support teams can be assigned; syllabi and assessment require standardization
Music-based exercise/dancesport	One specialist lecturer; findings available from an institutional music-based exercise project	Suitable for a common course/pilot; staff capacity building is required
Pickleball	Five lecturers hold national coach-referee certifications	Human-resource foundation exists for piloting and materials development
Ball- and racket-sport courts	Two volleyball courts, one basketball court, one futsal court, three badminton courts, and five table-tennis tables	Maintain current sports; manage class size and facility schedules
Campus activity space	Flat surfaces and spaces suitable for group organization	Music-based exercise and general conditioning are feasible with controls for weather, sound, and spacing
Infrastructure gaps	No standard athletics track or on-campus swimming pool	Avoid long-distance running on hard courts; do not offer swimming regularly until enabling arrangements are secured

6. Suitability assessment of sport modules

Table 8: Proposed matrix by implementation readiness

Sport module	Recommendation level	Primary rationale	Required conditions
Badminton, table tennis, volleyball, basketball, and futsal	Maintain and optimize	Suitable facilities and lecturers are available	Review capacity, equipment, schedules, and assessment criteria
Music-based exercise and general physical conditioning	Large-scale pilot	Suitable for flat courts; core lecturer and institutional research findings available	Staff training; standardized movement sequences; weather and sound contingencies
Pickleball	Controlled pilot	Five certified lecturers; multipurpose court lines can be marked	Avoid disrupting existing sports; provide nets, paddles, and balls; limit class size
Dancesport	Elective pilot	Core expertise available; supports diversification of choice	Safe surface; sound system; beginner-appropriate content
Distance running	Do not continue in its current form	No standard track; risks from repeated exercise on hard surfaces	Deliver running-based conditioning only with a safe venue, distance, and training load
Swimming	Do not include in the regular portfolio	No on-campus pool; entails travel, cost, and safety management	Consider only with stable facility agreements, lifeguarding, insurance, and equitable-access arrangements

7. Proposed structure of Course 1

Course 1 is proposed under the title 'Music-Based Exercise and General Physical Conditioning,' carrying one credit/30 periods. This structure does not equate music-based exercise with PE as a whole; rather, it uses music to organize

simultaneous physical activity and combines aerobic endurance, bodyweight strength, flexibility, and coordination exercises. Modified alternatives should be available so that students can participate in accordance with their health status.

Table 9: Proposed framework for Course 1 (30 periods)

Topic	Periods	Core content	Assessment evidence
Course orientation and safety	4	Self-directed training principles; intensity monitoring; warm-up, cool-down; injury prevention	Short knowledge quiz; personal goal log
Fundamental music-based movement techniques	8	March, step-touch, V-step, grapevine, knee lift, kick, and appropriate variations	Accurate rhythm, posture, and movement execution
General physical conditioning	10	Endurance, bodyweight strength, balance, and flexibility circuits; station-based organization	Individual completion and safe technique
Sequence design and self-directed exercise	4	Group work; design of short movement sequences; intensity adjustment	Group product and explanation of design principles
Review and assessment	4	Sequence practice; self-assessment; development of a sustained-activity plan	Practical performance, log, and self-training plan

8. Proposed structure of Courses 2 and 3

The two elective courses should be organized as sport-specific modules with common core learning outcomes and discipline-specific technical criteria. Offerings should remain flexible according to each semester's enabling

capacity, thereby avoiding commitments to a sport when facilities or lecturers are unavailable. Students should choose based on their needs; disciplinary clusters should inform communication only and should not restrict registration.

Table 10: Elective portfolio and learning-outcome orientation

Module group	Sport	Competency focus	Proposed status
Racket sports	Badminton, table tennis, pickleball	Hand-eye coordination, movement, basic tactics, and self-organized practice	Badminton/table tennis: maintain; pickleball: pilot
Team ball sports	Volleyball, basketball, futsal	Fundamental skills, cooperation, communication, rules, and safety	Maintain; optimize class size and court schedules
Rhythmic-aesthetic activities	Dancesport, advanced aerobics	Rhythm, coordination, posture, expression, and cooperation	Pilot according to lecturer and venue capacity
Individual fitness	Equipment-free functional fitness	Bodyweight strength, balance, flexibility, and self-designed sessions	Flexible alternative using flat courts

9. Proposed learning assessment

Assessment should move beyond reliance on absolute performance standards and combine process, technique, safety knowledge, and individual progress. This approach better accommodates differences in students' baseline ability

while maintaining academic expectations. Each module should publish its rubric before instruction begins and provide reasonable adaptations for students with documented health limitations.

Table 11: Proposed common assessment framework

Component	Suggested weighting	Item
Participation and safe practice	20%	Attendance, preparation, procedural compliance, and cooperation
Sport-specific technique	30%	Accuracy, coordination, posture, and application
Knowledge and self-training competence	20%	Training principles, intensity monitoring, and injury prevention
Fitness/skill progress	20%	Comparison with baseline using appropriate indicators rather than a single standard for all
Individual/group product	10%	Log, self-training plan, or tactical/movement-sequence task

Discussion

1. Value of the readiness-based approach

The central value of the proposal lies not in replacing one sport with another, but in shifting from a fixed-list mindset to readiness-based curriculum management. Traditional sports should continue because a foundation already exists; new sports should be piloted because relevant human resources are available but class capacity, equipment, and student acceptance still require verification. This tiered approach reduces the risk of fragmented investment and establishes a mechanism for evidence-based adjustment.

2. Replacing the current athletics content

The absence of a standard running track does not imply the complete elimination of endurance-development activities. Nevertheless, 91.0% of respondents perceived pain/fatigue or injury risk when running on concrete, and 87.0% reported long waiting times and low movement density. These findings reflect students' experiences and perceptions rather than clinical injury data, but they provide an important basis for reviewing current delivery. Music-based exercise combined with general physical conditioning received 92.6% support and aligns more closely with current resources. Even so, the new option should not be claimed to 'eliminate injury risk'; every activity requires screening, warm-up, correct technique, and training-load monitoring.

3. Feasibility of pickleball and dancesport

Pickleball benefits from certified staff and the possibility of integrating court markings. However, multipurpose courts create scheduling conflicts and may compromise quality when classes are too large. The initial phase should therefore limit the number of classes, record the proportion of students receiving meaningful practice time, and monitor

equipment wear. Dancesport supports coordination, rhythm, and communication outcomes, but delivery should avoid gender stereotypes and provide beginner-friendly content.

4. Why swimming is not recommended for regular delivery

Swimming and water rescue ranked second in student demand (62.5%), indicating substantial interest. High demand, however, does not automatically imply feasibility. The absence of an on-campus pool entails travel, costs, lifeguarding, hygiene, insurance, time management, and equitable-access concerns. Accordingly, the final proposal does not include swimming as a regularly delivered elective, but introduces 'equipment-free functional fitness' as an option deliverable on existing flat courts. Swimming could be developed as an extracurricular program or partnership-based course after a stable agreement and a dedicated risk assessment are in place.

5. Study limitations

The study had a large sample, a survey instrument with clearly identified variables and scales, and an integration of demand and resource data. However, the report did not include the raw dataset, Cronbach's alpha for each scale, complete chi-square outputs (χ^2 , df), or full regression tables. The Course 1 summary omitted the 'Strongly disagree' category, and some $M \pm SD$ values differed slightly from the published percentage distributions. The study also lacked direct class-session observation, measurement of active physical activity time, cost analysis, and a pre-post design. The descriptive findings may therefore guide planning, whereas inferential conclusions require verification before publication.

6. Implementation and Evaluation Roadmap

Table 12: Proposed implementation roadmap

Phase	Main activities	Outputs/indicators
1. Preparation	Review facilities; standardize syllabi; train staff; procure minimum equipment; develop safety plans	Syllabi, rubrics, equipment list, and facility inspection records
2. Pilot	Offer a limited number of music-based exercise, pickleball, and dancesport classes; collect baseline data	Background, health status, physical activity level, and learner expectations
3. Evaluation	Monitor participation, active time, incidents, satisfaction, learning outcomes, and costs	Midterm/final reports; quantitative data and qualitative feedback
4. Revision	Revise class size, content, court schedules, equipment, and assessment criteria	Post-pilot syllabus version
5. Scaling	Expand modules meeting the criteria; discontinue or redesign unsuitable modules	Portfolio decision and annual quality-assurance plan

Minimum indicators should include actual participation rate; minutes of moderate-to-vigorous physical activity per session; completion rate; individual progress; satisfaction; incidents/injuries; court utilization; cost per student; and lecturer feedback. Student surveys should use sampling stratified by disciplinary cluster and gender, pilot-test the instrument, report Cronbach's alpha for each scale where appropriate, and present complete descriptive statistics before inferential analyses.

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Conclusions and Recommendations

The current resource profile at Saigon University provides a basis for diversifying PE, but options should be selected according to implementation readiness. The university's strengths include courts for ball and racket sports, staff expertise in traditional sports, one lecturer specializing in music-based exercise/dancesport, and five lecturers with pickleball certifications. Its principal constraints are the absence of an athletics track and a swimming pool. The study therefore proposes restructuring Course 1 around music-based exercise and general physical conditioning; maintaining adequately supported sports; piloting pickleball and dancesport; using equipment-free functional fitness as a flexible option; and postponing regular swimming provision until enabling conditions are secured.

The university should establish a specialist group to develop standardized syllabi and rubrics, conduct facility safety inspections, pilot the proposed modules on a controlled scale for at least one semester, assess student demand with a validated instrument, and expand provision only after jointly evaluating learning quality, safety, costs, and operational feasibility. Class-size limits should be established empirically rather than prescribed in advance.

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